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FEBRUARY 1989

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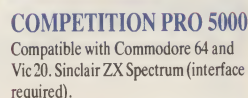
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THE AMIGA DIMENSION

It is just one year since **AUI** became a monthly magazine. In that time the Amiga has become recognised as a force in world computing. The number of Amiga owners has increased dramatically; in the U.K. to around 100,000 and in Europe as a whole doubled to some 500,000.

On the evidence of the World of Commodore Show in Canada, Commodore is also once again a power in North America. In Australasia too the Amiga dominates the field. CBM is now solidly in profit and investing substantial sums both in marketing and research and development. Software companies the world over are finding the Amiga an increasingly attractive market with entertain-

ment packages, of the right quality, becoming highly lucrative products. New and exciting hardware is appearing. Serious applications such as video on the Amiga are emerging and the machine is becoming accepted as a standard on which companies can with confidence base their business activities.

In recent months too, there has been a growing effort by Commodore to bring the Amiga forward into the educational field as a very serious challenger across the whole range of academic applications from computer art to pure science.

For those who have endured the long period in which Commodore and the Amiga were regarded almost with

contempt, the change in the fortunes of CBM, largely as a result of the against-the-odds success of the Amiga, is a considerable personal satisfaction. It gives us real pleasure to see that the sheer quality of the Amiga is winning through to a highly appreciative and evergrowing user base.

During the next year, there will become well over 1 million of us Amiga enthusiasts in the world and that even larger market will bring opportunities leading to a whole new set of developments that will benefit us all. For many of us, the Amiga influence is just beginning to be felt and its greatest impact is yet to come.

Antony Jacobson

Managing Editor and Publisher

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Miniature coupler joins modem

JOURNALISTS and other users of portable, hand-held, or lap-top computers will welcome the latest addition to the Datatronics modem range: The miniature acoustic coupler (model 2100). Designed to complement the popular 1200P "Pocket Modem", the new coupler is approximately the same size — (slightly larger than a pack of cigarettes).

This new device enables communication to be established, quickly and easily, from almost anywhere a telephone is available. This includes public call boxes, hotel phones, and even hand-held or portable cellular phones. And unlike all previous couplers, the 2100 is capable of working at both 300 and 1200 bps in full duplex mode, and has even been tested reliably at 2400 bps. The price is £49.00 + V.A.T. In addition, a special "bundle" is available, comprising the coupler and the 1200P "Pocket Modem" together, at £152.00 + V.A.T.

CONTACT: Clive Warner, on: 021-704 1399.

Take 'Action' with Action

JUST when you thought you knew all about shoot-em ups, Action brings you the magic Stinger. The magic Stinger sits comfortably on the dashboard, with readily accessible controls for death ray, machine gun, grenade launching and laser gun. It is currently available free with every order for five boxes of 3M diskettes from Action Computer Supplies, who stock the full range of 3M's 3.5in, 5.25in and 8in diskettes for next day

HP paintjet colour inkjet printer

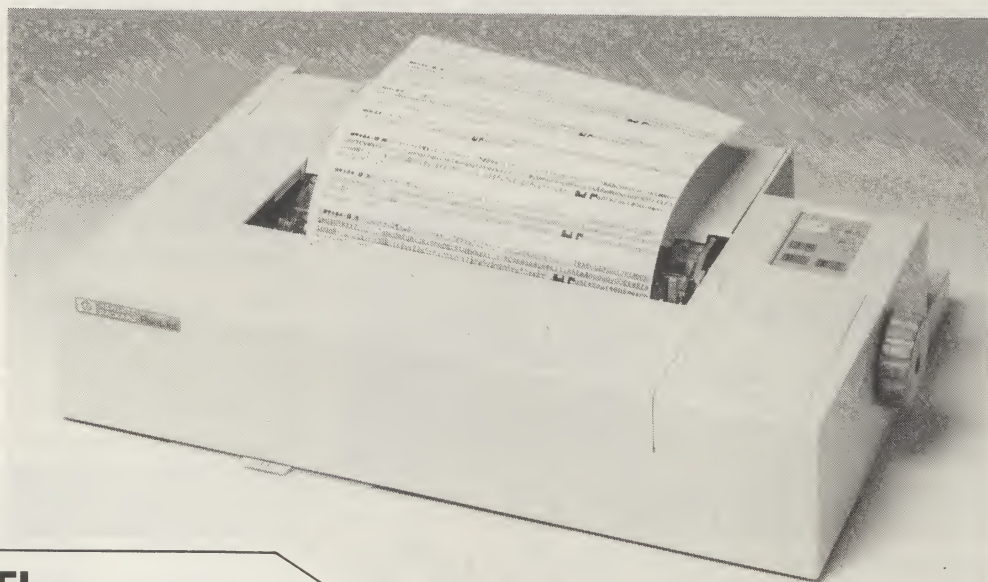
THE Hewlett-Packard Paint Jet colour inkjet printer will print a full A4 page of colour graphics in under four minutes, an A4 colour transparency in less than eight minutes, and NLQ

text at speeds up to 200 cps. Available at £758.70, the printer is 20 per cent less than HP's recommended retail price of £995.00. It carries a free second year's warranty from Action in addition to Hewlett Packard's standard one-year on-site warranty.

The Paint Jet is supported by a very wide range of business graphics, word processing, PC CAD and other software, including well-known packages such as Lotus 1-2-3, Graphics Gallery, MS Word, AutoCad and VersaCad. It

uses seven colours, printed at either 90 or 180 dpi, to produce literally thousands of shades, and provides print speeds for NLQ text of 167 cps at 10cpi, and 200 cps at 12cpi. It has Courier 10 and Letter Gothic 12 and 18 fonts built-in, with facility for bold, underline, superscript and subscript, and offers 12 character sets including Roman 8, PC8 USAscii and ECMA-94.

CONTACT: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL.



The "Thinking" Autopilot

B&G (Stand UF2) have launched a sailboat autopilot, Helmstar 740, which is the result of a three-year joint development programme carried out by B&G and Lewmar.

In developing the hydraulic auto pilot B&G set out to provide reliability, simplicity of operation, totally adapt-

ability and complete system integration.

Helmstar, has been designed for maximum reliability and carries B&G's three year worldwide warranty. Helmstar, B&G tell us, is a totally adaptive autopilot, which updates its learning of the steering characteristics of the boat. There is no need to resort to fine tuning knobs and dials.

Finally, with the introduction of Helmstar, B&G are able to offer a unique package. Autopilot and instruments from the 330 instrument range are designed and styled to be totally compatible.

Helmstar 740 has three basic components:

The Waterproof Display

This can be located wherever it's needed and can be bulkhead, flush or stirrup mounted. Simple display menus lead to selection of steering by compass, way-

point or wind. The display shows compass heading and has an integral rudder angle indicator. In operation, dodge or disconnect controls are immediately accessible.

The Computer Unit

This is sealed and can be fitted out of the way below decks.

The Drive Unit

Designed and manufactured by Lewmar, it is sealed and comes in a variety of sizes for different boats. It is available as either a compact ram, including by-pass valve for use with mechanical steering systems, or an electro-hydraulic pump for use with hydraulic steering.

Helmstar 740 will be available from March 1988 and a complete system will cost £2,495 ex VAT.

Contact: Brookes & Gatehouse Ltd, Bath Road, Lymington, Hampshire SO41 9YP. Tel. (0590) 75200.

Ringside

Prepare yourself with tough training and a competent manager for your way to the very top: the World Championships!

The Golden Gate Crew is bringing you RINGSIDE, in which the top ten boxers of the world are your opponents. Are you quick and fit enough to win the next match? Do you have to undergo an even harder training? Do you want to gain weight to increase your toughness at the cost of your swiftness? (Or would you just rather watch TV, become a skilled couch potato and never receive another press release?)

Some features of RING-SIDE: training and sparring mode; sophisticated *Build Fighter Menu* to change all relevant features of your boxer (such as strength of particular punches, swiftness, weight, toughness etc.); and an animated game within the game in which you have to take the part of your boxer's helping crew and his manager.

During the break, a replay function shows you the most breathtaking actions of each round in slow motion. The game is completely joystick or mouse controlled. Contact: The Golden Gate Crew, Postfach 18, CH-5604 Hendschiken, Switzerland. Phone 0041 695 170 M.

Value Added Resellers?

You can define any business that takes a product, already produced, and sells it as a value-added reseller. Computers are both the products and the aids in this process, sometimes in a very unorthodox fashion...

Recently police in the US have cracked several large prostitution rings, all heavily dependent on micro-computer systems.

These computers held large databases of names and addresses of clients, billing methods, sexual preferences, and the name of the prostitute servicing their needs.

A recently busted prostitution ring in San Jose, in the heart of California's Silicon Valley had over 50,000 customer names in its computers.

We're keeping a look out for applications software.

TDK Diskette Offer

The new range of 3.5in and 5.25in diskettes recently launched by TDK is now available from Action Com-

PC Output Rises

A report on 1988 PC production levels claims that over 60 per cent of the machines sold in Europe were produced within European borders. It estimates that total annual output has increased from approximately 1.97 million PCs in 1987 to around 2.75 million in 1988.

The top six PC producers are:

Manufacturer	Plant Location	Estimated Annual Output		INCR. 87-88
		1987	1988	
IBM	UK	700,000	850,000	150,000
OLIVETTI	Italy/Spain	380,000	425,000	45,000
APPLE	Ireland	200,000	260,000	60,000
HP	France	49,000	150,000	101,000
COMMODORE	Germany	73,000	122,000	49,000
COMPAQ	UK	1,000	100,000	99,000

Source: Intelligent Electronics/Dataquest, November 1988.

puter Supplies. To mark the launch of the new diskettes, a free pack of three SF90 or AR90 TDK audio cassettes will be dispatched by Action with every five-box order for TDK diskettes.

TDK manufactures the full 5.25in range up to high-density (1.2/1.6MB) diskettes for the IBM PC.AT, which Action offers at £18.10 for a single box, reduced to £14.35 for £100+ orders.

The TDK 3.5in range includes 0.5MB, SS and 1.0MB, DS diskettes, and

Quick Images

Inmos, the UK-based semiconductor company, rumoured about to be sold to a European group, will shortly introduce a digital signal processing chip that they say will greatly aid the real time processing of video images.

Scanned images — such as television, that have to be altered in some way are usually digitised because each pixel (picture element) can then be treated separately to obtain an overall effect. The processing time

can be unacceptable unless considerable computer power is available.

The new Inmos A110 chip produces results which were previously carried out more slowly or could not be carried out at all. It can perform 400m digital operations per second using 400,000 transistors on a chip measuring only 10mm by 8mm.

This may mean that a robot on a production line could identify an object and pick it up without stopping or slowing down operations. In hospitals, body images could be analysed very soon after some medical action has been taken.

Son of FM II

ADDICTIVE Games has announced the release of Football Manager 2 Expansion Kit.

With Football Manager 2 Expansion Kit, Addictive tells us you can still enjoy the thrills and spills of Football and Football Manager 2, but with the advantages of being able to modify certain variables of a saved game. Change team names, colours, players names, sponsors names or the name of Cup to your

liking. Or for a brand new game you'll be able to do all the above plus select the division that you start in, decide how much money you start with, change the amount of points received for a league win or draw. Football Manager 2 Expansion Kit comes complete with a number of previously saved games enabling the player to take part in the Scottish, French, Italian and World Leagues. Price for Amiga and PC £12.99.

CONTACT: Richard Hennerley, Prism Leisure; 01-804 8100.

CARRIER COMMAND — Back-Up Copy

A U.K. reader recently wrote to us describing his trouble making a back-up copy of Carrier Command, by Rainbird. It seems he had a disk from a "bad batch," so that his second and subsequent passes were met with the response "ERROR READING MASTER DISK". A visit to the Rainbird offices in London cleared things up. He informed us "Rest assured that the full game is copied after the one pass" and that additional passes contain information not necessary for playing the game.

Contact: Rainbird for more information on 01-240-8830/8838/8839.

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| ★ Karate Kid II | ★ plus 5 disks of |
| ★ Grid Start | public domain s/ware |

The total retail value of extras supplied is £270.45.

All this for only £399.00!

Pye 1518 FST TV/Monitor with Fastext, digital tuner (40 presets), and full infra-red remote control. Connection cable supplied ...	£299.00
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(model CAS 1000 S)

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PRINTERS

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LC
10



Hugely successful 9 pin printer, the Star LC10 provides 4 NLQ fonts (with 96 print combinations) at 36cps and 144cps draft. Has a large 4K buffer and IBM/parallel interface built in, includes a comprehensive front panel operation and features paper parking, allowing single sheets to be used without removing tractor paper.

star

We use and recommend Star printers since they offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

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Colour version also available,
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Prices include 2 extra
black ribbons free of charge.

Star LC24-10 feature-packed multifont 24pin printer	£339.00
Star NB24-10 24 pin printer 216/72 cps, including cut sheet feeder and 2 extra ribbons	£499.00
Star Laserprinter 8 high specification 8ppm / 300dpi laser, (price inc. 1 year on site maintenance)	£1795.00
Panasonic KXP1081 reliable 9pin 10" printer 120/24 cps	£169.00
Panasonic KXP1124 good quality new multifont 24pin	£319.00
Epson LX800 popular 9pin 10" 180/25 cps	£199.00
Epson LQ500 24pin 10" 150/50 cps	£319.00
NEC P2200 budget 24 pin 168/56cps	£319.00
NEC cut sheet feeder for P2200 printer	£69.00
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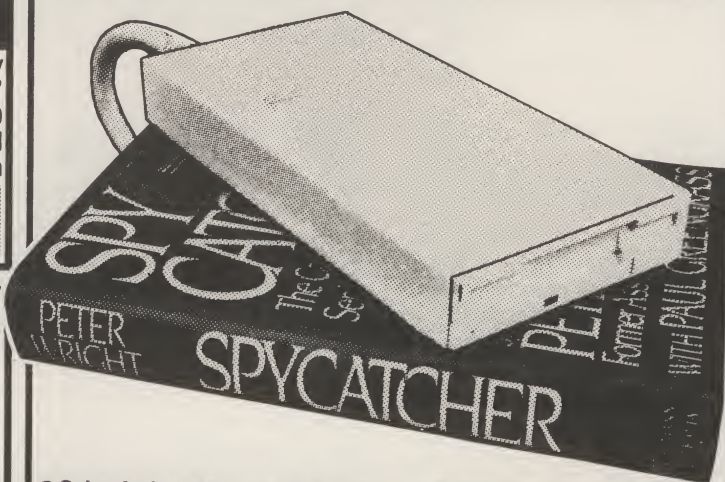
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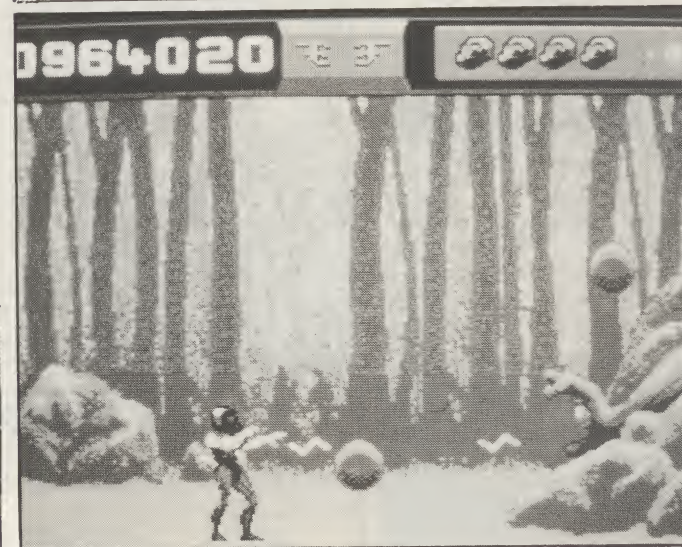
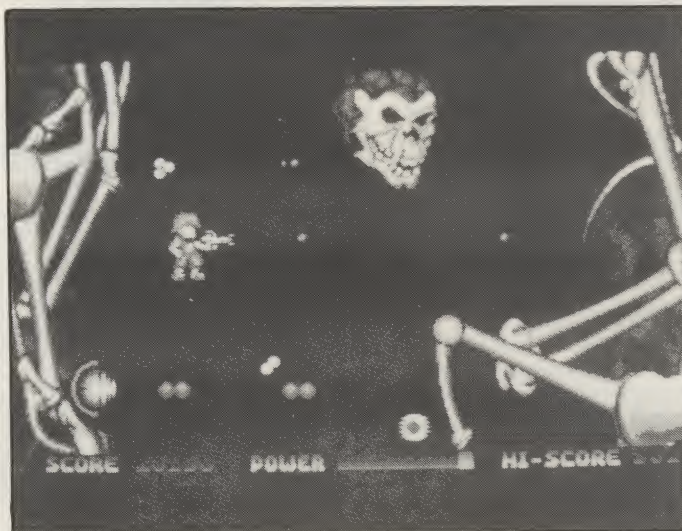
Digital Magic Software has announced the release of two "arcade quality, action packed" games: Trained Assassin, a multi-level, four-way scrolling, fluid moving 'shoot-em-up;' and Scorpion, a multi-weapon platform combat, combining multi-directional scrolling with hand to hand fighting and 'shoot-em-up' fire-power. Both are scheduled for early in 1989. Contact: DIGITAL MAGIC SOFTWARE LTD, 103 Mersey Rd. West Bank, Widnes, Cheshire. WA8 0DT. Tel.051 423 5943

New Products

Amigo Business Computers, a developer of software and hardware peripherals for CBM's Amiga line of computers, has announced three new products for the Amiga — Future Touch, a touch screen for the Amiga, Amigo ComPorts, the first multi-port RS-232 card for the Amiga, and Amiga BackPack, a 40-meg cartridge backup system for Amiga hard disks.

Future Touch, is compatible with all Amiga software, including optical disk and other authoring packages, and provides touch input which is identical to all functions performed by the mouse. This allows users to resize windows, drag icons and windows, open windows, edit documents, create graphics and run programs.

The 13 inch version of Future Touch, with 640x240 resolution, is offered as a complete touch screen monitor, or as a kit for retrofitting into existing Amiga monitors. The integrated unit, at a suggested retail of \$1595.00, comes assembled with dark glass CRT, touch screen, built-in tilt stand, RS-232 touch output, video cable, RS-232 cable, software driver, and manual.



Optional stereo speakers are available at \$59.00. The kit, with a suggested retail of \$1195.00, includes the touch screen, controller and power supply assembly, connector plate, RS-232/D cable, software driver and a comprehensive installation manual. According to Daniel Riggs of Amigo, the kit can be assembled in approximately 45 minutes using a few simple tools.

The 19 inch version of Future Touch, with 640x480 resolution, is only available fully assembled. Suggested retail price is \$3390.00.

KirkWork, is a utility that incorporates onto one disk the Amiga operating system, Kickstart, and the Amiga user interface software, Workbench. With KickWork, Amiga 1000 users can boot their system from one disk instead of two.

KickWork, upgraded to work with all functions of version 1.3 of the Amiga operating system, comes with a new manual containing many tutorials for developing custom startup configurations. Included are examples, such as how to configure your system to automatically execute certain programs following a power failure. Suggested retail for registered owners is \$14.95 and for new buyers \$34.95. KickWork 1.3 requires version 1.3 of the Amiga operating system, which is available with KickWork in a special "Enhancer" package for \$59.95.

Amigo Comports is a multi-port RS-232 communications card for the Amiga 2000. The device fits into any internal expansion slot in the Amiga 2000 and auto-configures to the Amiga

Thunderbirds

GRANDSLAM ENTERTAINMENTS have secured the licence for THUNDERBIRDS a major television series which has retained its appeal over the years and is currently enjoying another revival. "We're confident that the game will be as popular as the TV series itself," commented GRANDSLAM Managing Director, Stephen Hall. THUNDERBIRDS features all the famous characters from the TV show, including Virgil, Brains, Lady Penelope and Parker. The game will be available for all major formats in February 1989, and will be followed by further missions to take the crew on.

operating system. Amigo ComPorts, starting at a suggested retail of \$389.00, comes with two, four, six or eight ports.

The Amigo BackPack is a cartridge tape backup system which provides 40meg of backup on 3M DC-2000 1/4 inch "mini tapes," with special software developed by Amigo Business Computers to provide inherent redundancy and error elimination during the backup process. Amigo BackPack comes in two versions. The internal device, with a suggested retail of \$899.00, fits in the 5 1/4 inch disk slot. The external device, with a suggested retail of \$949.00, plugs into the last disk on the external drive chain and configures automatically. According to Daniel Riggs of Amigo Business Computers, hard disks may be backed up using drive and directory labels, while the restore function may be activated using disk, directory or file labels.

CONTACT: Business Technology Services at 212/ 682-2910 or contact Amigo Business Computers at 192 Laurel Road, East Northport, New York 11731, Tel.516/ 757-7234.

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New! Shareware Extravaganza — put together specially for Jumpdisk by Chet Solace this disk contains 26 programs of the best new software Solace found on the American bulletin boards during an intensive October foray. The disk contains about 1.5 meg of material stored in a highly compressed self-booting format. It is menu driven and ready to run with 8 colour icons. Ansi text, animation and full documentation. RECOMMENDED.

Interested in Amiga? Then why not consider the PD Library Pack. Two disks packed full of information and articles plus a copy of our new PD news catalogue all for only £4.99 plus a £5.00 voucher that may be used against the first purchase of 10 or more PD disks.

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Mark Smiddy, just back from his visit to Canada reports on one of the largest Commodore specific shows ever held — the sixth annual World Of Commodore.

Canada is the birthplace of Commodore Business Machines, 1988 being their thirtieth anniversary. Like the U.S. the most noticeable thing about Canada is the sheer size of the place. They have the biggest lakes, the longest streets so why not the largest computer exhibition? Well, World Of Commodore — held in Toronto's sprawling International Centre must surely rate as one of the most capacious and most spectacular public computer exhibitions anywhere.

This view was obviously shared by the official contingent. Commodore Canada's director of Marketing, Stan Pagonis told me, "The show this year is going to be bigger than the previous year which makes it the largest manufacturer's computer show in North America, and still the largest computer show in Canada."

Stars of the show, Commodore themselves, had of course taken a sizeable chunk of the floor space — forming what could only be termed the Commodore village. And, as is usual at these events, the hardware-thirsty public were not disappointed. Even though the company started with humble beginnings selling typewriters, CBM rapidly expanded and produced the world's first true small computer — the personal electronic transactor otherwise known as the PET. This was based on a CPU of their own design, the ever popular 6502 — a chip, which albeit in slightly modified form, still forms the heart of the Commodore 64.

As part of their 30th anniversary celebrations, Commodore had brought a display of every piece of hi-tech hardware the company have ever produced. From Pocket Calculators and PETs to VIC 20s. Some, the younger generation of computer users would never have heard of; many extremely rare examples of vintage hardware. As a matter of interest, Commodore marketed the PET and its forerunners several years before the slow machinery at IBM even thought of the idea of a PC. It was only IBM's household name appeal that kept their inferior machines afloat — and no doubt still does.

Alongside the old, the thirst for newer, faster, more powerful machines did not go unquenched. No matter what your poison in hardware, Commodore — or one of their developers — had something new and

exciting to offer. The company reaffirmed its attack of the PC clone market by demonstrating their new IBM-bashing PC40-III. The new best features an 80286 CPU running at either 6, 8 or 12MHz, 1Mb internal ram, a single 5.25", 1.2Mb floppy drive and an internal 40Mb hard disk — plus VGA graphics as standard. And being supplied with MS-DOS 3.3 it can run almost all PC software. If that were not enough, Commodore have managed

The most notable being the new A590 hard disk/RAM upgrade for the Amiga 500. This remarkable unit is not due to arrive in Europe until the middle of 1989. If first viewing is anything to go on, there is no doubt it will make a very big impact on the already-expanding 500 marketplace. A spokesperson for Commodore admitted that the release of the new hardware was as much of a surprise to him as it had been to the expectant crowd.



to give the machine a very small footprint — especially when compared at other AT clones, which looks likely to see it find favour with the small businessman who is pushed for space — but still needs power.

Of course the Amiga, Commodore's favourite baby, received a few enhancements just in time for the show.

As it turned out, the new drive is so new that no one from Commodore could even supply a suggested retail price — only to say that it will be very competitive when compared to equivalent designs. However, it is unlikely the machine will be priced at a cost to undermine the Amiga 2000 series.

Although specifications are always

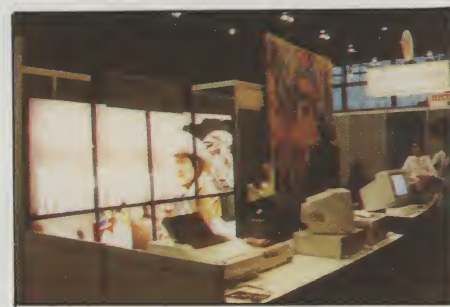


"The new unit offers an easy upgrade path for existing A500 owners and also gives the new users a cost-effective method of getting the system they need bit-by-bit."

prone to last-minute changes, I understand the A590 is based on a 3.5" 20Mb fixed micro hard disk, supplied ready formatted. The RAM upgrade is based on the brand new 1 Megabit CMOS DRAMS, and destined to be supplied unpopulated — no doubt to keep the cost down and offer the chance of expansion to suit the wallet. However the greatest benefit of the new unit is that it takes the underated A500 —

straight into the league of the Amiga 2000HD, also receiving first exposure at the show.

Perhaps the most remarkable thing about the new drive is its very small footprint. The whole thing — RAM included — fits on the existing expansion bus on the left-hand side of the machine, and while it is no more than four inches wide still manages to follow the aesthetic styling of the 500's case. This means no ugly SCSI interface box, no trailing lead and a setup which will fit very neatly in to most layouts without being too obtrusive.



Inevitably, the cost of the A500 plus A590 will be greater than an equivalent A2000HD system, but the new unit offers an easy upgrade path for existing A500 owners and also gives the new

cont. on next page

continued from page 11

WORLD OF COMMODORE 1988

users a cost-effective method of getting the system they need bit-by-bit — instead of having to go out and buy the whole thing in one go. This should bring the poorer Europeans into line with their more well paid cousins from across the Atlantic.

Other new releases from Commodore included the new Super Amiga, the Amiga 2500UX. The new beast comes fitted standard with 32 bit version of the 68000, the 68020, and 2Mb of on-board RAM. Use of the new processor can cause some existing software to vanish in to the land of Gurus due to slight differences in architecture, but the increase in speed is, frankly, quite staggering. The Guru problem can be solved with a public domain problem called DeciGel, but it is unlikely the machine will need to use such patches. This is because it is aimed at a totally new area of the market.

The choice of the 68020 was quite deliberate, since it is the only processor capable of handling the new version of the UNIX operating system, UNIX version 5.1 first revealed at Ami Expo. This new version features a totally new windowing system — not unlike Intuition — but with an quite incredibly fast scroll rate even when scrolling is active behind other windows, quite an achievement. One software developer said, "This new system is so outstandingly fast, it's unlike anything I have ever seen before. Not only does it use

multiple windows, the programmer has even managed to add embellishments like drop shadows. It is just incredible."



Once again, the A2500UX was so new, Commodore were keeping very tight-lipped about the price. However with a machine as fast as this one featuring a specification which includes 32 bit RAM (a standard Amiga has 16 bit RAM) and the Unix operating system — it will not be cheap. Unlike other companies that I could mention,

Commodore are very pleased to share their space and glory with the people that keep their market afloat.

One developer was Brad Fowles of Anakin Research. Brad (40) is to many people, a mentor of hardware design — after being singularly responsible for the excellent Easy1 drawing tablet, and, the first piece of Public Domain hardware ever devised. This PD hardware add-on for the Amiga 1000 units was a 68020 accelerator board —

called Lucas after his son — giving a speed increase with properly written software in excess of 100%. Bare boards were available at the show for under £25, which meant the complete project could be made for under £150 — less than half the cost of a commercial add-on. A real must for speed freaks.

There was of course quite a large contingent of games players and manufacturers. Among the seething crowds. British companies like Pysgnosis and Anco could be seen demonstrating their latest and forthcoming releases, however perhaps the biggest impact of the show was the final appearance of Don Bluth's, Dragon's Lair, on the Readysoft stand. This shattering game appeared in the Public Domain ages ago, as a demonstration requiring at least 1.5Mb of RAM to run properly.

Now at last the final version has been announced. So popular was the game that a queue of people had formed completely around the stand with would-be testers raring to get a go.

Programmer Randy Meers told me just how much work had gone in to the finished product. "The initial development and ground work took about three months and the final product



continued on page 20

Amiga Gets The Chop

IK+, Archer Maclean's fast and furious martial arts game, is coming to the Amiga! Brought to your monitor by System Three software, IK+ is the sequel to International Karate.

Some 40 or so control keys and words can be typed in on the Amiga keyboard whilst IK+ is running. So not only will you be able to play Karate, you'll be able to play around with the presentation of IK+ too! (That's if you can, sort your mind out which being attacked by a karate fiend. You can? Ah so!) Price: £24.99. Contact System 3 Software, Blenheim House, 1 Ash Hill Drive, Pinner, Middlesex, HA5 2AG. Tel. 01 866 5692. IK+ will be available for the Amiga from System 3 in January 1989.

RRP: £24.99

Magellan Function Keys

For those of you who picked up a first release copy of MAGELLAN, here's the function key list you've been missing. A designates the right Amiga key:

A A - Attempt a Goal
A B - Backchain
A C - Cell Display
A D - Delete a Goal
A E - Edit Rules
A F - Forward Chain
A G - Goal Display
A H - Add Words
A I - Initial Conditions (load values)

Font Packages

New Horizons Software has announced ProFonts Volumes I and II, two font packages for the Amiga computer. The ProFonts packages contain high quality fonts for use with their Amiga word processor, ProWrite. The fonts contained in Volume I come in a broad range of sizes, and are suitable for correspondence and reports. Volume II contains fonts of a more decorative nature and are useful in enhancing the appearance of ProWrite documents. Both ProFonts packages can be used with other programs that can utilise Amiga fonts, including Deluxe Paint II, Page-Setter, and Notepad. The ProFonts packages will each have a suggested retail price of \$34.95.

CONTACT:
New Horizons Software Inc.,
P.O. Box 43167,
Austin, TX 78745,
Tel. (512) 328-6650

A K - Word Edit
A L - Load KBase
A M - Make Rule (Create)
A N - New Goal
A O - Select Cell
A P - Select Rule
A Q - Query Status (Status Display)
A R - Display Rules
A S - Save Rules
A T - Thesaurus (Synonyms)
A U - Clear Goals
A V - Save Values
A W - Display Words
A X - Clear All
A Z - Delete Rule
A ! - Preview Picture
A / - New Cli

Unix V.S. OS/2

The latest findings in a monthly survey of dealers by market researchers Wharton Information Systems shows one in three pcs sold run the Unix

operating regime — against just one in 20 at the start of the year.

And PC users appear to prefer Unix to OS/2. OS/2 only took 8% of the total shipments of 43,000 during the month the survey was conducted.

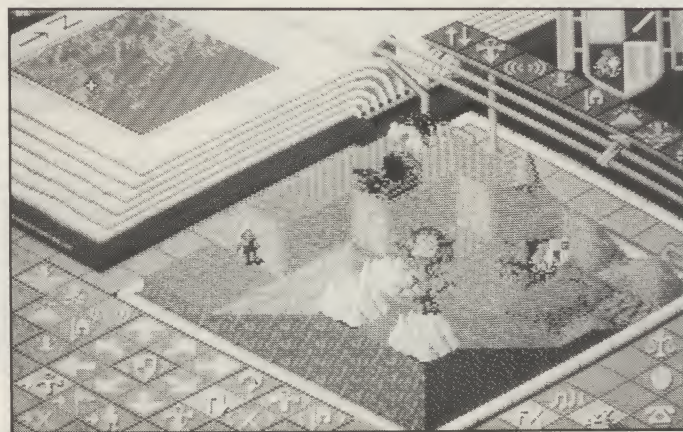
Populous

Social Darwinism on your Amiga? Electronic Arts has announced the release of Populous, from its U.K. artist group Bullfrog, the authors of Fusion. As EA tells us, Populous is a totally original concept that cannot be categorised. Although the game will be available in March, we have seen the pre-release version and it looks very interesting. The game sees the birth of two nations - one good, one evil, both fanatic followers of their own God and warriors by nature. The player is the God and his aim is to, populate, claim new lands, evolve new technologies and then wipe out the population of the opponent, so one nation remains. Populous features an overview map of the current world and the ability to instantly zoom in to any one point in the world shown in glorious 3D. The game can be played against the computer or head to head against a friend via datalink, Amiga to Amiga, or Amiga to ST. It will also allow the player 'to take up the ultimate challenge and face an opponent by modem.' (Oh no! Not another ultimate challenge!) The player begins by clearing land for his first people to settle and build cities. As the cities grow so does the level of technology of its inhabitants. The number of people and their technological advancement will determine the player's divine power. As this grows the player will be able to direct his leader to any place on

the map, create knights who will fight and burn enemies' cities and harness the natural elements against the enemy by ravaging the land by swamps, earthquakes, volcanos and floods. (Who says God has no sense of humour!)

Populous features two modes, a conquest mode and a custom mode. The conquest option features hundreds of worlds based on four different terrains from arctic to desert landscapes with pre-set fighting conditions. The player will progress through the different worlds, his last performance determining which world he is to conquer next. The detailed level system allows the player to quit from his current world and return without needing to work through all the levels again. The custom mode offers the player the facility to design his own world and select the conditions under which he can fight. The custom mode can be used to put strategies and tactics to the test in preparation for the conquest games. The player has the choice of saving the game or just the map without the game.

Populous also features digitised sound effects throughout, including earthquakes, floods and many more, along with varying title tune sequence which add to the atmosphere. Sea monsters and giant birds act as random elements and will harass both populations independently. (You can bet Gulliver never travelled here.) Price: £24.95. Contact: Electronic Arts.



Workbench 1.3 Now In The UK

Workbench has been updated and is now available in the UK. Priced at £14.99 the update includes three diskettes and a manual (including Kickstart 1.3 for Amiga 1000 owners). This eagerly awaited improvement on Workbench V1.2 brings a host of new features to the Amiga range. With V1.3 "the Amiga is a faster, leaner and even more flexible machine", CBM claims.

Hard disk directories are up to ten times faster, text printing to the screen is four times faster and graphic printing is ten times faster than before.

Math operations in programs using the libraries speed up automatically, it saves typing by using full line editing and a recoverable RAM disk keeps its contents until the Amiga is turned off.

The library automatically uses a 68881 Math Coprocessor chip with 68020. There are 21 printer options and lets programs (literally) speak for themselves!

Dr Rahman Haleem - Commodore's Technical Support Manager - says of V1.3: "With the arrival of this update the Amiga has again set the pace for everyone else. With capabilities such as disk partitioning raised to 2 Gigabytes the Amiga range looks better than ever before. It is a must for every Amiga user and an extra incentive for anyone thinking of buying a 16-bit machine".

Contact: Rob Wait or Tim Rafferty, Spire Communications, Tel: (01)-602-0806

It's 'Chip'—per In The UK

The UK semiconductor industry will continue to flourish well into 1989 despite a slump predicted in world markets.

According to the world's fourth largest chip maker, Motorola, growth in demand for chips will drop from 38.2% to 10.2% worldwide, but the UK will remain strong with growth at 13.7%.

The US is experiencing a recession in the semiconductor industry and a drop in demand for personal computers, on which most of its chip production is reliant.

However, the UK is less dependent on sales of PCs, and 26.7% of its chip production is centred on home electronics as opposed to only 5.8% in the US.

Motorola's prediction for the UK would make it one of the biggest chip producers in Europe - up from \$1.7 billion to \$2 billion. West Germany will remain the largest manufacturer.

AmiEXPO Dates

AmiEXPO has set its dates for the coming year in the same venues as 1988. It travels west from New York in March. Mark your diary on: March 3-5, The Marmot Marquis, New York, NY; July 28-30, The Hyatt Regency, Chicago, IL; October 20-22, Santa Clara Convention Center, Santa Clara, CA. CONTACT: AmiEXPO at 1-800-32-AMIGA or in the states (212) 867-4663.

"Aegis" origins . .

We have heard that the fearless leader of Aegis is infatuated with, among other things, US military prowess. The Aegis is the US Navy's most sophisticated weapon tracking, sonar detecting, missile slicer and dicer. Rumour has it that Michele Mehturian, the VP of marketing, was in charge of buying C-rations, armbands, and setting up camp (750 square feet) at a defensible beachfront, Playa del Rey, California, from where they battle the war in the computer marketplace. And, as they say, the rest is history.

Hacker Banned

People usually go to universities to learn. One UK teenager did learn a lesson, but in a different way. He was accused of causing at least £60,000 worth of damage to university computers recently, and he has been banned from "hacking" into other systems as a condition of bail.

It seems he was very active on three occasions: on 4 July, 1988, he damaged system files stored on an ICL 2988 computer running under the VME operating system at Queen Mary College, and University College, London, intending to damage or being reckless as to whether they would be damaged; on 3 July, 1988, with a view to personal gain or with

Move Over, Mini!

The minicomputer will be dead within five years.

The assertion, in a report from management consultant Butler Cox, comes only a week after IBM, at the launch of its AS/400 ranges, described the mini market as "the fastest growing segment" of the industry.

Butler Cox questioned 134 data processing managers for its report,

intent to cause loss to another, he damaged an accounting record stored on an ICL series 39 computer belonging to the South Western Universities Regional Computing Centre; and on July 11, he dishonestly obtained a licence to transmit computer messages along a telecom-unications

"The Future of the Personal Workstation". It predicts that linked desktop machines will replace minis for distributed processing in medium-sized and large companies.

Tony Brewer, director of Butler Cox, said the so-called mini as the middle bed in a three layer system will disappear and give way to a two-tier set-up of intelligent workstations and a powerful host computer.

But mini-maker Dec's Microvax product marketing manager, Charles Monk, said: "I haven't heard anything so absurd for years."

Monk said Dec's

mid-range machines were increasingly taking mainframe business. He pointed out that most of Dec's sales are in large systems.

Other industry experts are equally divided on the subject. We venture to say the answers are most likely dependent on the type of computer they presently own - or make.

line from University College London to Cripps Computer Centre at Nottingham University with intent to avoid payment.

One must wonder - why Universities? Nevertheless, this guy obviously has a lot to learn - like not being caught.

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SUPERBASE PROFESSIONAL V3.0

Paul Andreas Overaa tests an upgrade to one of the top software packages on the Amiga

Precision Software Ltd. have released a major up-date of their 'heavy weight' data-base program. The new version is called Superbase Professional 3 and included amongst the latest enhancements are two areas of special interest, namely support for the ARexx interface and the inclusion of communications facilities.

Superbase Professional 3, as the name suggests, is now the top of the range of Precision's data-base products. The package consists of a program disk, a 'forms editor' disk, a data disk of examples, two manuals and dongle protection device. As before the first manual covers the use of the database program itself and includes well presented tutorial examples. Appendices cover such things as error messages, function definitions, and notes on recent Superbase changes. The second manual covers the database management language and the use of the 'Forms Editor' program. Additional information is also provided as a 'READ ME' file on the main program disk.

The new release provides many new extensions such as cut and paste facilities in the text and program editors, use of program variables in Mailmerge files and options to support label printing on laser printers (if you are lucky enough to have one!). There are some extensions to the Import/Export data handling capabilities and the current facilities now read as follows: dBasell and dBaselll, Lotus, Logistix, SuperPlan, DIF and both fixed length and delimited variable length ASCII files can be handled. These facilities used in conjunction with Superbase's 'filter' capabilities

make this a most interesting and flexible area of Superbase. Although primarily used to move data to and from external sources it does have other uses as well - e.g. major re-organisation of existing Superbase files could be achieved by 'internally' importing and exporting existing Superbase files under selected filter conditions. I am always wary of having my data 'locked' into a particular data base product (no matter how good it is) and like to know that the data could be moved easily if I so wished. For these reasons I rate the continued expansion of this particular set of functions very highly indeed.

"The Superbase Professional 3 release of DML includes some minor syntax changes together with the addition of several new commands which amongst other things allow the tracking of the mouse position within an active window."

Superbase Professional's database management language is known as DML. DML was already powerful and provided a major extension to Superbase's facilities. It contains almost everything you would expect of a database management language and includes some excellent file interrogation facilities together with functions which help simplify the production of reports, customise dialogues etc. The Superbase

Professional 3 release of DML includes some minor syntax changes together with the addition of several new commands which amongst other things allow the tracking of the mouse position within an active window, the monitoring of the mouse button state, programmed control over the VCR panel activity and commands for programme control of the newly added ARexx interface and communications facilities.

The implementation of the ARexx interface is a major achievement. ARexx is a macro language that allows commands and data to be passed between applications programs. Using the interface an ARexx program, or another applications program which supports ARexx, can tell Superbase to carry out any function which you could perform at the keyboard. Likewise Superbase can pass messages to other applications. As far as the user is concerned the data transfer is achieved by two extensions of DML's CALL command...

**CALL port EXECUTE strexpr
CALL port RETURN strexpr [TO]
field/strvar**

The first command is intended to allow other processes to execute command strings passed from within Superbase. It is up to the DML program to check that no errors have occurred and this is done by checking the ERRNO variable whenever you have carried out an ARexx exchange. The second form allows the other application to return results to Superbase in the specified field or variable.

Another major enhancement is the inclusion of file transfer communications facilities. Superbase

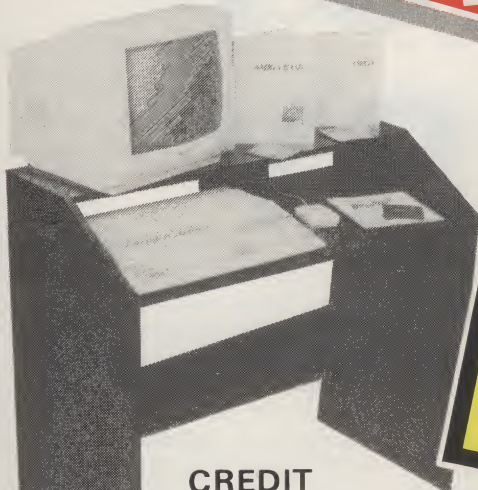
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WORD PERFECT LIBRARY

Trying to bring some order to his life, Peter Lee drops in at the Library...

Since its release on the Amiga in the Autumn of 1987, WordPerfect has remained unbeaten as the top word processor for the serious user. Nothing has come near to challenging it. Unrivalled features and a glowing reputation have made it the top of the range for professional applications.

Of course there have been critics — knockers who complain about difficulties in learning such a complex program (in fact, when I test drove WP way back in the September '87 issue of AUI, complexity was one of my concerns). For every grumbler I have heard since, there have been dozens more singing its praises.

But I think every range of Amiga user — from the executive controlling his empire, to the ordinary enthusiast like you or me, will have nothing but good to say about a brand new product from the WordPerfect corporation — WordPerfect Library.

There are no fewer than five separate applications in the utility — Calendar, Program Editor, Calculator, Notebook and File Manager, and together they add up to a useful and cleverly integrated suite of organisational tools. Again there is a degree of complexity involved in controlling the program, but this is the only obstacle to an otherwise intuitive approach.

The program is supplied on a Workbench disk which can be backed up or copied onto a hard drive. The usual WP house-style heavy-duty ring-bound manual is better than you could hope for, and there is an additional disk of printer drivers (you name the printer, WP will almost certainly be

able to drive it), plus a keystrip, quick reference card and adhesive key-cals which stick over the numeric keypad to show its altered function as a cursor control. A fine program presentation — as you would expect from the Utah-based corporation.

In simple terms, you can see WP Library as a vast desktop personal organiser to help you run your business as well as your life. In today's hurly-burly, we all need a little help with organisation, and the program's utilities fit neatly into the area of improving efficiency (and hands up all those who think they don't need any of that!). To take the library functions one by one:—

CALENDAR

The first habit to get into if you do not have a real-time clock in your Amiga is to set the date each time you boot up the program, otherwise the Calendar module will be crippled before you start.

Once this program is selected from the Library workbench, you are presented with a four-window display showing a day-by-day guide to the month, memo sheet, a list of appointments and an ominously familiar-sounding 'To-Do' list.

For each day you highlight on the month's calendar, the appropriate text appears in the relevant window — for instance by clicking on February 26th you will be shown a list of your schedule for that day, together with any pertinent notes you may have entered.

A nice feature of the program is its ability to store several different calen-

dar files on disk — one for each of a firm's reps perhaps, or a working couple's individual schedules. And thanks to the program's integration, different calendar information may be merged so that a group of people's appointments or movements on any one day can be correlated (for instance to find out if the MD and his deputy can meet the foreman at a given time).

So what? You may ask. After all, office diaries have been around for years, and you can just as easily turn a few pages as flick through an electronic calendar. True, but the way the program displays its information is so much easier to understand, and so versatile that provided it is managed correctly it can prove a big step forward in efficiency.

For example, not only can you view a list of appointments, you can see any associated memos on screen, and also keep track of the priority items listed in the To-Do window. These two items may seem simple jotting pads, but in effect they allow you to rough out your future operations, and give you the chance to jot some notes and store them away until the moment they are needed.

On a simple level this could be a reminder two weeks before your loved one's birthday to book a table at a restaurant, and more usually it could be a note to raise a particular topic at the next business meeting. Of course, you can print out any information if you need a hard copy, and there is a clever built-in alarm which will sound, and alert you in advance of an appointment.

The program sparkles with expert touches — for instance you may choose to have things you haven't done in the To-Do section carried over to the next day's display (Mine would soon snowball!!) You can calculate the number of days between two dates, or even how many Tuesdays and Thursdays there are between now and the end of the year; multiple appointments throughout the year are easily inserted via a requestor box (for example if you have a 10am meeting each Friday between July and September), and there is even an overlap feature which will warn you if your 40 minute session with the dentist cuts into your 2.30 appointment with the auditor (what a day that could turn out to be...)

PROGRAM EDITOR

This is a simple text editor which can serve both as a cut-down word processor or an ASCII program editor. It is an easy to use utility with a sprinkling of frills, though certainly not enough to make it a replacement for your favourite word processor.

Among its saving graces is an automatic indent feature — a terrific aid for C programmers because it will remember where on the screen you started the previous line, and begin the next line directly under it — ideal for laying out those structured routines without hitting the space bar or tab key repeatedly.

It also incorporates the ability to append blocks of text to one another, which is useful if you are cutting and pasting from a number of documents. As with WordPerfect there is a timed backup option which automatically saves your work to disk periodically, and you can mark a block of text and convert its case to upper or lower. As well as search and replace, copy, delete and past, there is a clone option which combines the copy and insert functions, to paste in a marked section of text at the current cursor position.

Perhaps the most innovative feature of Program Editor is the ability to alter the characters generated by the pressing of either the Control or Amiga keys in conjunction with another keyboard character. In this way special characters can be placed under keys, and macros assigned. Macros are a major advantage because they allow you to define a sequence of commands once, then invoke them repeatedly with a keypress, loading them from disk at startup. To take a simple example, you could define the macro to save your work to disk and then print it out — no hassle with the file requestor or printer options each time you need to do it — let the Amiga do all the boring work!

An unusual, and not amazingly useful addition to the program is a Hex editor, which splits the screen to show your text, and also the hex equivalent for editing.

CALCULATOR

Show me a row of figures and I'll show you an idiot — me. Anything which can help me towards semi-numeracy has got to be a plus, and the functions available in this section of the Library leave me no room for excuses. Obviously there are aspects of the program which soar straight over me — (the gradients mode for trigonometric calculations to name but one), but on a financial and programming level it is a great asset.

Actually there are three calculators available — Scientific, Financial and programmers, each with their own expertise covering the simplest functions to the most complex.

Each of the calculators is displayed on screen as you expect a pocket calculator to look, with the mouse able to depress the buttons.

Among the features of the Scientific model are capabilities for trigonometric, logarithmic and exponential functions, with the display showing fixed, scientific or engineering notation.

The Programmer's Calculator warmed my heart, offering such much-needed delights as 1s complement, ASR (Arithmetic Shift Right), AND, OR NOT, Binary or Hex mode, and even Octal which I use frequently.

The Financial Calculator can cope with amortization, interest, profit margin annuities and so on.

Because of their specialist nature, these calculators are complex to understand by the layman, but would obviously be fine-tuned business aids to those who need them.

NOTEBOOK

Despite its name, this module is more like a database manager than a memo pad. It is a full-feature information-management system, ideal for names, addresses and telephone numbers (which can be dialled from the computer if you have a modem connected), or generally for lists of things which you need to maintain — property in your home and any serial numbers, a slide collection or business contacts for instance.

Information is stored on record 'cards', which you can design to suit your needs, itemising the fields which will need filling in for each entry.

From a full-screen index of perhaps one field of this information (maybe a person's name), you can easily open up the whole entry for that item.

Editing is straightforward, and the display can be configured in sorted order to show the fields you are interested in.

Notebook files are saved to disk as a WP secondary merge file, which means you can merge details contained in the notebook — names, addresses and so on, into letters created in WordPerfect itself.

FILE MANAGER

Something of an odd-man-out, this utility; it is a fine DOS front end, but hardly a tool in the mould of the other Library programs. But for anyone intimidated by the CLI jungle without CLIMATE, it will prove indispensable for disk management.

The control panel enables all DOS commands to be executed simply and fuss-free; things such as file copying, directory creation, sorting and deletion.

Perhaps the icing on the cake is a search facility which will scan the entire contents of the disk (or just the files you mark) for a particular match. So if you had written a letter to Aunt Nancy but couldn't remember the filename, searching for 'Nancy' would earmark each file where that word occurred — very useful, and the ability to insert wildcard characters makes it doubly efficient.

GENERALLY

The file requestors are identical to the ultra-efficient ones used in WordPerfect, and life is made more comfortable because pull-down menu items are duplicated by simple keyboard commands.

The manual is terrific, and the only fault is its weight! One full disk is given over to printer drivers, and you can define a selection of several to be loaded in as needed (in case you have different printers at home and work). I think printer control borders on the fussy, but it is a small price to pay for the versatility available. Screen colours can be altered from within any module, and the program will work on any of the Amiga family of computers and runs in 152K of memory.

CONCLUSION

WordPerfect Library is a professional package of extremely high quality. I am a champion of integrated utilities, and this selection is the best I have come across. There is probably something for everyone in each of the program's modules, but the business user is clearly the main target for such a blue ribbon desktop organiser. The one thorn on this particular rose is the nagging 'Catch 22' fact that to become efficient, you have to BE efficient; which means that unless you maintain your records, fill in your appointment screens and generally manage your Library well, it will ultimately only be as useful as last year's diary.

Price: £175.95

PL

continued from page 12

WORLD OF COMMODORE 1988

has taken over nine. In all there has been a total of 14 artists, 4 sound people and 8 other people involved in the project. Everything in the game — including the graphics and sound — are faithful replicas Bluth's original work.

"On the six 1.2Mb extended format disks there are a total of 3000 frames of animation — each one decompacted during the frame flyback. During development we have filled 800 disks with data and squeezed the whole lot onto just six."

But at what price? Not cheap, the PAL version is expected to retail at just under £50. This is added to the fact some of the original rooms — like the hobby horse — are missing and others will become available on extra rooms disks containing three or four rooms a piece. This all makes me wonder if it was all worth it. I suppose we will just have to wait and see. There is a demo mode activated by pressing the right keys. The demonstration itself lasts for a full nine minutes, but as to which keys to press my lips are sealed.

Still, if every cloud has a silvery lining, it is interesting to report something new on the horizon from Readysoft — all directly attributable to Dragon's Lair — and it is not a game. The system developed by Randy's team for the game is currently been enhanced greatly, to become what they think will be the last word in computerised authoring systems. Called CAST (Cell Animation Sequencing Tool) this new product will allow anyone to create their own interactive movies — Dragon's Lair is just that.

By virtue of some clever techniques employed by CAST, users will be able to cram 1.2Mb on each disk. With added compression and a second drive, this means you could run a frame sequence of over 3Mb long on an unexpanded A500. Readysoft promise to have the system for release some time in 1989, by which time it should interface to video disk players. Those who have seen the Acorn/Philips Doomsday project, should have some idea of the almost limitless potential of such a system in education and audio/visual presentation.

Readysoft were not just showing games though. Hidden almost out of sight by the crowd, a young Australian programmer was tinkering with what looked remarkably like Aldus Pagemaker. Since Pagemaker is not available for the Amiga I took a closer look

— a Macintosh. The case was very definitely a Amiga 2000, but the display was very much the Apple Mac. Either the show was getting to me — or Readysoft had cracked the Macintosh emulator. Last rumors of such a beast were dashed when the programmer of Magic Sac announced he was having problems with the Amiga's memory. Although saying that, Magic Sac didn't work very well on the ST either.

Sure enough it really was a Mac emulator, as yet unfinished and only there as a pre-taste of what was just around the corner. The real proof of just how good it is likely to be, lies in the fact that it uses bona-fide Apple drives, and therefore will read real Mac disks. None of this tedious mucking about the RS232 leads — and no problems with protected software, since you can use the originals. The only problem may lie with Apple themselves, who tend to get a little upset when people want to use their ROMs in other machines. Readysoft assured me this had already been sorted out.

industry — decided to do something to help others. Robot Readers designer, Genie Enright, told me why. "According to recent statistics, up to 18% of adults in the United States cannot read the instructions on a bottle of aspirin. These aren't just older people or 'dropouts', they could be young adults just leaving high school at the age of 18."

Each Robot Reader story consists of a series of pages. Each page consisting of pictures and some text. As the page appears the text is read out word by word. Afterwards, parts of the picture can be selected and the computer speaks their name. According to Genie, Robot Readers make special use of the Amiga's phonemes to add the correct amount of stress to words and to pick out the syllable correctly. This is a vast improvement over the likes of the demonstration Speech supplied with the machine.

During the show, there were a multitude of hour long seminars for those with the stamina; it was possible to



An interesting footnote is the reason why the emulator was written in the first place. Simple, the chap concerned is a New Zealand student who had an Amiga, but needed a Mac to do his homework on. Solution: he wrote the emulator. Well wouldn't you?

The Amiga on the whole was very well represented at the show, but there was one area of interest that left a few people wondering — education. Where was all of this educational software? Some of it was to be found on the Hilton Android stand — in the form of Robot Readers. These are packages specially designed with the pre-school reader in mind, and make extensive use of the Amiga's superlative sound and graphics capabilities.

The idea came about after programmer Joe Hilton — who had spent some thirty years in the aerospace

spend an entire day listing to experts tell all you need to know about your computer and how to get the best from it. One of the most notable and best known speakers was of course the Commodore guru, Jim Butterfield. Every talk he gave was filled with a variety of witty comments as well as some very useful advice. "People," he calmly announced during one session, "are not computer users — they're computer victims."

Overall, the sixth annual World Of Commodore was a terrific place to be if you wanted to pick up a bargain Amiga. Similarly, if you just wished to learn more about computing in general — your needs were adequately taken care of. This was a show dedicated to the users and the public. This show was efficiently organised and pleasingly constructed. Well done, everyone concerned.

M.S.

SUPERBACK

Andy Eskelson analyses a hard disk problem and finds a super solution

HARD disk systems are very fast and have large capacities when compared to the standard 3.5 inch floppy. It is therefore fairly tempting to stick EVERYTHING onto the hard disk to save the constant disk swapping.

Hard disks do, however, have a problem... if you want to change the partition sizes or the file system i.e. going from WB 1.2 to WB 1.3, you will need to take files off the disk. And it can be a very tedious task removing 12 megs or more worth of files! There is one further problem, what if the disk crashes? Well own up, how many of you out there have backups of *all* your files?? Even if you do have some backups, recreating your hard disk environment could take you a very long time. What is needed is some software to carry this out for you.

Superback, as its name suggests is a utility for backing up hard disks. Superback will spool off the files on the hard disk and put them onto floppy disks in such a way that it is very easy to restore the files to the hard disk once it has been reformatted to clear any errors. Even so it can take some 20 minutes to back up a 20 Meg disk.

"There are three versions of the program on the disk, English, German and French."

Superback was developed by MKSoft, and documented by the Disc Company. There are three versions of the program on the disk, English, German and French, each section of the handbook being approx 31 pages complete with copyright statements and index. The documentation is easy to read and understand. I had a quick scan through the manual and then put it back in the box. There are only a few things that you need to know, as the program is very very easy to use. A first class job on the user interface and the documentation: well done Superback!

Superback is started from the workbench with a simple double click, and

you are presented with a single screen comprising of seven click gadgets and a small window and slider bar. The main click gadgets allow you to select QUIT (exit the program) Backup to floppy, and Restore from floppy. Sub-options are: changed files only. Verify while writing and Ask before overwriting. Only the first option need explaining. The Amiga stores a series of flags attached to each file. These flags perform functions like locking the file, thus preventing the file from being deleted. One of the flags is the archive bit. When Superback performs a full backup, the archive bit is set. If you modify the program and save it, the Amiga will automatically clear the archive bit. So, when you ask for an incremental backup by selecting the 'changed files only' option. Superback can locate any files that have been modified since the last full backup.

Superback determines what DEVICE you want to backup by showing the device names in the window on the main screen. Simply click on the device(s) that you want to backup. I have two partitions on my hard disk, the second is device FAST: (using WB 1.3 fast file system) so to back this up I just select FAST from the window and then click on the select files gadget.

"Once you have selected the operating mode, Superback will scan through the files on the disk and tell you how many bytes will be back up."

Once you have selected the operating mode, Superback will scan through the files on the disk and tell you how many bytes will be backed up. It will also tell you how many floppy disks you will need to save the data on. The floppy disks do not need to be formatted as Superback formats as it writes the data, but you are advised to have the disks to hand and numbered from 1 upwards.

You will then be presented with a second screen with two main win-

dows and four click gadgets. The left hand window shows the directory structure of the device selected, including any sub-directories. The right hand window shows the files in the selected directory. You can include or exclude any directory (Drawer) by clicking onto the directory and then clicking on the exclude Drawer gadget. The same goes for the Include Drawer gadget. By default ALL drawers are selected, and clicking on the Backup gadget starts the process off.

"When the backup is complete you can reformat the hard disk and then restore the files in a similar way to the backup process."

Once the backup is under way, you are prompted to insert the backup disks into DF0: one after the other starting with disk 1. You are presented with a display showing bytes left on floppy, bytes left to backup, and files left to backup. That is all there is to it. When the backup is complete you can reformat the hard disk and then restore the files in a similar way to the backup process. As a bonus there are several modes offered when restoring the files. You can skip disks, and even restore single files one very useful option is that if the hard disk is dead. Superback will allow you to restore to floppy disk. You have to be careful not to select more than 750K of files at any one time but it does recover the files and makes them available for use.

Superback is a must for any hard disk user and I can find no fault with the program at all. It is simple and easy to use, and also it is not copy protected, so you can back it up!

A.E.

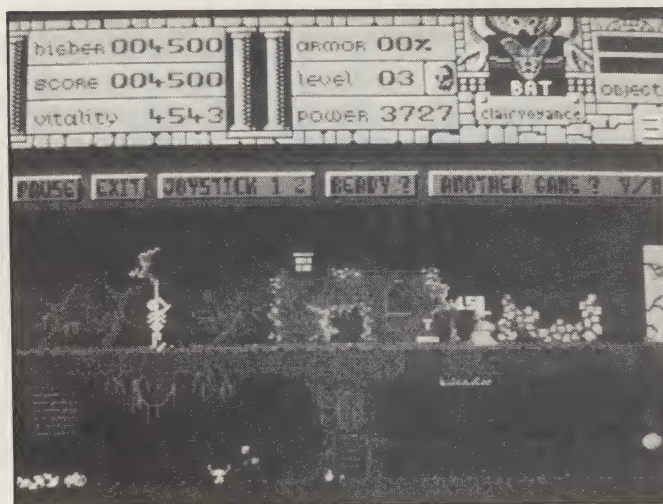
Price: £52.95

Contact: The Disc Company, 1 Rue du Dome, F-75116 Paris, FRANCE (+331) 45531053

THAT foul master of misrule (he whose name must never be uttered) has been at it again. This time he has got hold of the Karna, the ultimate precious jewel granting infinite power to its possessor. Already he has begun stirring up the dregs of the underworld, summoning armies of evil creatures and the undead to the good earth. This must be stopped, and you are the only one man enough for the job. (You've been the only one man enough for so many other very similar situations in the past, haven't you?).

"You play the part of a cloaked warlock armed with a fireball-emitting finger for zapping most of the ghoules that come your way."

Eight objects have been littered around the land that must be rounded up to reveal the location of the wicked one. The screen is split in half, horizontally, with an oversized score panel at the top and a narrow game area beneath. You play the part of a cloaked warlock armed with a fireball-emitting finger for zapping most of the ghoules that come your way. These appear generally from the upper level in each screen,



taking the form of zombies, spooks and grim reapers. Traps await you in the underground tunnels where most of the collectables can be found. Once you have had a snoop around and gathered up anything of value you can hobble off to the right, triggering the next screen to scroll on.

That basic formula never really changes throughout the game, so there is very little to keep playing for. There is nothing in its derivative gameplay that has not been done before. The game's graphics are tiny and include some of the smallest sprites ever seen on the Amiga (Should there be an Oscar for that?). In fact, the only commendable aspect of the game is the sound; although there's no music, the effects are suitably eerie.

If you bought your Amiga to play games you could have played on a Spectrum half a decade ago, Warlock's Quest will be right up your street. For the rest of us there is no more than about an hour's worth of entertainment to be had. Even then I can think of a good few ways that I'd rather spend sixty valuable minutes. For a tenner, Warlock's Quest would be acceptable without being remarkable. At double that it is highly over-priced and barely worth a second thought.

T.H.

WARLOCK'S

QUEST

Infogames



Graphics: 3
Sound: 7
Playability: 4
Value: 3
Price: £19.95

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THE SECURITIES ANALYST

Free Spirit

"Shares can go down as well as up..." You said it, buster! That is the warning that is legally required on official advertisements in the UK. Len Keighly examines a program to help you keep them going up and up and...

The Securities Analyst is a new program produced by Free Spirit Software that can be an aid to all budding stock brokers as speculators. The program provides ten different analyses which will enable the amateur investor to predict what will happen to the price of selected shares.

The basis of the program is the monitoring of trends in the price of shares of particular interest. Information about share prices is stored by week, which makes it simpler to use than those methods requiring daily information. The data held for each week consists of the High, Low and Closing price of the share, a volume figure and an indicator figure. Unfortunately the volume item is not explained in either the manual or the program but the indicator figure is provided so that the Dow Jones or FT Index figure for the week can be entered and compared against the performance of your selected share. At least ten weeks worth of data must be entered before the analyses can have any validity. However, the input process does allow you to enter data at various points in the history of a share. So it is possible to build up the file without waiting for the time to pass.

Once the data has been loaded the analyses that can be carried out will

identify a number of trends. The analyses possible in the program are:—

Moving Average, Accumulation/Distribution, Relative Strength, Performance, Point & Figure, Trailing/Stops, Stock Chart, Momentum, Price/Earnings Analysis, Performance Analysis.

These trends can be reviewed as an individual graph which makes use of the whole screen, or as a multiple which allows a selection of four different graphs to be selected. The display for the multiple selection splits the screen into four with a graph in each part. The graph options can also be output to a printer for hardcopy. The printer is also used for a 'Total Analysis' which will provide every analysis graph available from the software. There is a problem with this however, for, as the manual states, this can take approximately thirty-five minutes to complete.

As expected the share information entered can be stored on disk and a number of sample files are provided using well known companies such as AT&T.

The package comes on two disks with a twenty-eight page manual. The manual, as well as giving details of the commands etc, provides a brief explanation of each of the analysis methods and how they can be inter-

preted to monitor share movement. It does, however, assume that the user has some knowledge of share dealing and the terminology, therefore the package is not for the out and out beginner or even the individual with only a passing interest in the stock market. Anyone with the knowledge will be able to take advantage of the buying and selling opportunities that the program will forecast. There is however, just one caveat and this is highlighted by a disclaimer in the manual, which, when boiled down, removes any responsibility by the authors or publishers for the recovery of any losses that may result from following the trends suggested by the software. Not surprising but this should be borne in mind when you are thinking of borrowing money to make a killing on the market.

The program is well-written and makes use of drop down menus for all of the processes. It is easy to use and will make life a lot easier for those interested in the subject. It is written with the American User in mind but there should be no reason why it cannot be used with other stock market details.

L.K.

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When Ocean announced their plans to convert Taito's Operation Wolf I was more than a little sceptical as to how well it would turn out. Short of supplying a bolt-on sub-machine gun with every copy, how could the Amiga version do the coin-op justice? By recreating every other feature of the coin-op perfectly, that's how!

Being the brave and rather heroic fellow you are, you have volunteered to carry out the solo mission of liberating the enemy POW camp. No less than six heavily guarded areas lie between you and hero's welcome back at base. Wasting no time you promptly board a plane and bail out over the dense jungle surrounding the communications setup.

Objective number one is to demolish the base and so stop the enemy from calling in re-enforcements. First though, you have to deal with the crowds of mad gunmen after you. Some run across in front of you, stopping to take a few shots before hurridly leaving the screen. Others parachute in from the skies while snipers peep out from windows. The real tough guys confront you at point-blank range, grimacing with every slug they pump into you.

A few are armed only with knives and grenades but can throw them with deadly accuracy. Your rather unlikely counter measure is to shoot them in mid-flight, which is almost as difficult as it

sounds! Tanks and helicopters pose yet more problems. As you would expect, these can take a lot more lead than the soldiers and dish out just as much abuse. Fortunately you are also equipped with a rocket launcher which, if used carefully, can rip art a couple of choppers and any passers by in one go!

OPERATION



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Ocean



Next it is on into the jungle where more troops flood in for the battle and tanks are replaced by gunboats. Once you have seen to that lot, The Boss puts in an appearance, shielding himself with a hostage. Unfortunately for the hostage, there is usually nothing else to do but blow them both away with a rocket!

Later you get to restock at the powder magazine, free prisoners of war and finally escape from the airbase.

Ammo is limited and must be conserved if you are to get anywhere. Extra magazines and rockets can be picked up by shooting them and small amounts of damage can be repaired with bottles of pop. Blasting sticks of dynamite helps things along and a super-gun with unlimited rapid fire for a short time.



Along with the amazing graphics there are some brilliant details dotted throughout the game. Vultures, pigs and chickens can resist any amount of gunfire and grenade attacks but leave behind extra ammo if you shoot them enough times! Almost all the intro screens have been included along with bags of speech and graphical progress reports between levels. Even the intonation of the apology "Sorry, but you are finished, here." is just right!

Sound on the Amiga with 512k is good, with powerful music and atmospheric speech and music, but with a megabyte it is even better! Pigs squeal, chickens squark and windows shatter accompanied by realistic noises. Megabytes also get graphical extras such as trucks and weapons crates.

While Operation Wolf is addictive and by no means easy, there is no getting away from its rather basic gameplay. Fortunately the frantic pace and spectacular graphics go a long way toward disguising this. So if you want a state of the art arcade machine in your Amiga, you will not be disappointed in Operation Wolf!

T.H.

Graphics: 9
Sound: 9
Playability: 9
Value: 8
Price: £24.95

GAUNTLET II

US Gold

Elves, warriors, valkyries and wizards were all the rage a couple of years ago, but isn't the Gauntlet theme now beyond its prime? Not according to US Gold who have finally completed the Amiga version of the classic coin-op's sequel.

Rather than a whole new game, Gauntlet II is more an enhanced version of the original. Your goals are the same as before, those being to stay alive for as long as possible whilst filling your pockets with all the treasure you can lay your hands on. You can play any one of four characters but unlike the first game, players can select to play the same characters. You can even have a full four players at once using the adaptor supplied separately.

As each player enters the game they are greeted with speech sampled from the coin-op. Most of the monsters are the same as before, the ghosts, lobbers and grunts are in abundance as always and acid puddles now seep their way around the tiled floors. The most notable of the new enemies is the "IT" monster. This chases the players until it touches one, whereupon the computer announces "Blue Wizard is it" (or whoever has just been tagged). Now all the monsters are attracted to that player, totally ignoring everyone else until Blue Wizard touches someone else, making them "it".

"Teleports, moving exits, stun tiles and traps make for a more varied game than its predecessor."

Various amulets can be picked up for extra magical powers, such as reflective shots or temporary transportability. You can also gain temporary repulsiveness which has the fortunate effect of scaring off the monsters. Teleports, moving exits, stun tiles and traps make for a more varied game than its predecessor.

A good job has been done with the graphics which are very close to the coin-op. I particularly liked the various types of food that keep you going through the game, the leg of ham looks really appetising!

All the sound effects and speech have been sampled from the arcade machine. The quality of the samples is a bit below par but the sounds themselves make up for this, and the speech is



entertaining and informative, telling you when you need food and warning you if you are about to die.

"It still plays surprisingly speedily (especially compared to Garrison), and the IT monster, speech and bright graphics convey all the competitive spirit of the original."

As with most of US Gold's UK originated Amiga games, Gauntlet II is near identical to the ST version, which leads to a smaller scrolling area than is necessary on the Commodore machine. It still plays surprisingly speedily (especially compared to Garrison), and the IT monster, speech and bright graphics convey all the competitive spirit of the original. Gauntlet has been done so many times that I now find it a little tedious in anything other than short sessions. On the other hand, for anyone still hungry for some maze-based ghoulie bashing, Gauntlet II is just the ticket.

T.H.

Graphics: 7
Sound: 8
Playability: 7
Value: 7
Price: £24.99

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AMIKIT

Vega Technologies

Mark Smiddy looks at one of the most innovative software packages ever designed for the beginner

For anyone new to 16 bit masterpieces of design like our beloved Amiga, Workbench must initially seem like a totally alien environment. Let us assume you have just graduated from the C64. Loading a program from tape was a simple matter of pressing a couple of keys, or, if you were fortunate enough to own a disc drive most operations could be completed with a few simple command lines. Very few 64 owners in Europe I suspect, will have ever come across GEOS or WIMP systems in general. From the day you return home from the shop proudly clutching your new prize, things can seem a bit of an uphill struggle.

"Perhaps its best feature is it assumes throughout you have a very basic system, just one disk drive and 512k of memory."

Very soon though most people get the hang of the basics. Pointing at the relevant picture and double-clicking to get a directory or simply run a program. Most of us soon become familiar with simple menu based operations. Even so there are those that will even find Workbench confusing at first. For almost everyone though, if the first experience of Workbench is like dipping your toes in a nice warm bath – experiencing the CLI is like diving headlong into a pool full of Pirhanas; most unpleasant.

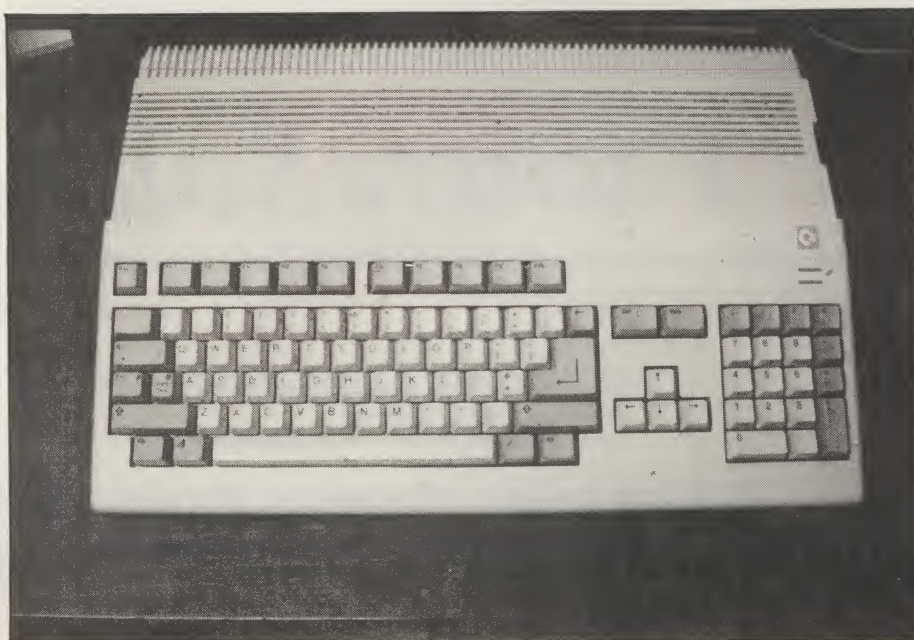
Suddenly you find yourself dropped into a multi-tasked minefield of weird and wonderful commands.

This is where Vega's excellent new release, AmiKit comes in. The kit comes with a 164 page, indexed manual and three disks containing the latest version of Workbench; plus some of the best Public Domain software I have seen recently.

AmiKit is essentially a very good introduction to the Workbench and CLI. Even if you have never used a computer in your life before, this superbly planned out book is designed to take you by the hand and lead you through all of the features of the Workbench, painlessly step-by-tentative-step. And perhaps its best feature is it assumes throughout you have a very basic system, just one disk drive and 512k of memory.

This sort of treatment is important since many other respected volumes tend to forget many of us start off with just a single drive and quickly discover the need for more. Even so, the book does give examples of the upgrade paths to a better system in the first few chapters. Much better to rely on this advice than that of the salesman who just wants you to part with your hard earned cash.

In fact, heady subjects like Workbench are left until chapter three, by which time you should have a better idea about the Amiga and be ready to take on the task of learning more about the machine. You will also have gathered the relaxed style about which this tome goes about its task of teaching. To say relaxed is not to mean flippant, which it certainly is not. It encourages the reader to take things slowly, to



learn by example and experiment.

To give an instance, after a long but clear discussion of the Wimp environment, the book gives details of how to duplicate the three original disks before you start to experiment too much with them and delete something important. However, rather than giving the all-to-brief "Point at the icon, click once and select duplicate from the Workbench menu..." type of description the manual describes this important operation in no less than 25 steps. Waffly? Some would say so but I would disagree, remember how hard it was to learn to drive a car – now you do everything by instinct.

"Details of formatting are covered, along with explanations of what all the window "gadgets" do and how to use them."

Once you have copied the original disks for safe keeping, you are encouraged to take a break. Upon your return you will be greeted with details of how to give your Amiga the "Vulcan Nerve Death Grip" in other words – reset it. Further on, details of formatting are covered, along with explanations of what all the window "gadgets" do and how to use them. This section even includes details of how to set the preferences on the new Workbench. It is important to note here though, the new Workbench is supplied with the printer drivers on the Extras disk, since this is not supplied you will have to copy the appropriate driver across to the disk from your old Workbench using CLI.

The CLI, as I have already said is a real pain to use until you get used to it, especially in release 1.2. Release 1.3 of Workbench – as supplied with AmiKit – on the other hand contains a much more advanced version of CLI, called Shell. Among its many new features are the Alias and Resident commands, explained in the January 1989 Crib Card; plus command line editing and a

command history. Since the Shell is much more user friendly, this is the version covered in detail.

Anything you can do with CLI can be done with the Shell, but it is inherently easier to use.

Two full chapters have been entirely – and properly – devoted to CLI and as with the rest of this excellent book it is packed with relevant examples put across in as simple a way as is possible. This includes customising the startup-sequence using "Ed", something more advanced users will no doubt be itching to get to grips with.

If that was not enough though the author of AmiKit has been wise enough to foresee the needs of the user growing steadily as his experience widens. To this end, AmiKit includes a communications package in the form of Comm version 1.34, a review of this can be found in the January 1989 issue of Amiga User International. Not content with just including the software, the book includes details of how to get the best from it as you access BBSs. However you will need a modem to take full advantage of this. Incidentally, this section also includes notes on archiving and de-archiving software ready for transmission, something which can save money but is confusing for the raw beginner.

"There are over 30 programs supplied on the two disks and not one of them is bad."

Finally, and I leave this until last since it is perhaps the best feature of AmiKit, is the supplied Public Domain software. There are over 30 programs supplied on the two disks and not one of them is bad. They have been compiled partly from the Fred Fish library and partly from American bulletin boards. There is not room to mention them all here of course, but here are some details of the best:

Virus X version 1.7: The latest version of one of the best virus killers around.

Duvi: in case you get tired of Shell this is Iconised version of the CLI.

Elcc 3.3: A simple database capable of holding about 100 records organised like an cardex system.

Scalc: A superb little spreadsheet, for all it is a little clumsy in places and does not trap circular references.

Wordwright: An excellent word processor. By far the best I have yet seen in the Public Domain.

Runback: An excellent CLI based utility for running programs like ***Virus X*** from a startup sequence – script file.

Tiles: A superb variation of the Chinese game, Mah Jong with very good graphics.

All in all, AmiKit offers unequalled value for money. If you have just bought an Amiga it can only be classed as the first essential peripheral, on the other hand if you do not have either Workbench 1.3 or some of the PD software listed here it is a very cost effective way of obtaining it. I should point out though, while AmiKit does not cover every single feature of CLI, there is more than enough here to get almost anyone well on their way. It deserves a place in every Amiga owners collection, I can not recommend or praise it highly enough.

M.S.

Note: Some of the software supplied with AmiKit is designed for NTSC monitor so will not give a complete screen display when used with PAL/SECAM models. Also the package supplied for review had to be modified to utilise the correct keyboard map. This is a simple matter of copying the appropriate keymap file – i.e. gb for the UK keyboards – on to the Devs directory of the Workbench disk and altering the Startup-Sequence script file in the S directory to read: ***SYS:System/SetMap gb.***

Product: Amikit

Price: £19.95

Supplier: See special offer on Page 34

'STEVE JOBS — THE JOURNEY IS THE REWARD'

by Jeffrey S. Young



Last October at the Davis Symphony Hall in San Francisco the NEXT Inc. computer was launched by its founder and Chief Executive, Steve Jobs. The razzmatazz and massive hype that accompanied the launch (there was actually a black market for the invitation-only tickets and over 250 reporters from all over the world were flown in to cover the occasion) was typical of Jobs, master salesman and boy-wonder — or should it be *enfant terrible*? — of the computer world.

In 'Steve Jobs — The Journey Is The Reward', Jeffrey S. Young paints a 'warts and all' portrait of this charismatic but 'abrasive', 'aggressive' and even 'obnoxious' co-founder of the Apple computer company, of his meteoric rise to fame and fortune and his no less spectacular fall from the heights.

Steve Wozniak was Jobs' partner in the Apple venture. Wozniak actually invented the first homemade circuit board which they named 'Apple,' but Jobs saw the potential, marketed it, and took the company to the top with his brand of brashness and flamboyant salesmanship. In addition, it was Jobs' belief in the original product that inspired the 'workforce' — if the two or three other youngsters who toiled alongside the two Steves in the garage at Wozniak's home can be glorified by that name — to work night and day to complete their first orders.

In today's world where youth is now

the norm for computer whizz-kids, and becoming a millionaire at twenty-three causes no astonishment, Jobs' story may not seem so exceptional. But what makes it so fascinating is the character of the man himself. With no expertise in computer design and no knowledge of the business world, armed with only his natural ability to spot a gap in the market and capitalise on it, Jobs made it to the top, fast. Despite being a 'loner' and someone whom, it seems, very few people appear to like, Jobs succeeded.

Young is frank to the point of brutality in this book. He writes about the twists and turns of the inter-company politics that bedeviled Apple almost as soon as they went public and which in no small measure were, apparently, due to the machinations of the chairman, Steve Jobs. On Tuesday, September 17th, 1985, Jobs resigned from the board of the company that he had co-founded. Young writes that if Jobs had not done so voluntarily, he would almost certainly have been 'pushed'.

Steve Jobs is not the usual company chairman. Young describes some of the influences that may have shaped Job's character. There was no inherited wealth, he didn't come from a middle-class background, he wasn't particularly clever, but he had that greed to be 'someone' right from the start. He was, in fact, illegitimate and was adopted by blue-collar worker, Paul Jobs and his wife, Clara. Although he had an obvious affection for his adoptive parents, it is equally obvious

that he is not the kind that parades his feelings. One of the more unlikeable personality traits that comes to light in this biography is the way in which Jobs seems to discard anyone just as soon as they have outlived their usefulness to him. Many people do, of course, follow the same creed, perhaps it's part of what leadership is all about, but Jobs' way of doing it seems to leave much to be desired.

His personal relationships, too, seem to founder on the same rocks.

For example, Jobs' refusal to acknowledge Lisa, the child after whom he named the ill-fated 'professional' computer, resulted in his being sued by the County of San Mateo for non-payment of her support. While he was making millions, Lisa and her mother, Colleen, were on social security support.

The man that emerges from this biography is, from Young's perspective 'unbearable, disruptive, obnoxious, insecure' and that's just for starters! However, he is also 'personally seductive, charismatic' and, it is very apparent, one hell of a salesman.

Where this multi-faceted man will finally finish his journey is anybody's guess. Wherever it is, one thing is sure, it will be at the top of the heap.

D.M.

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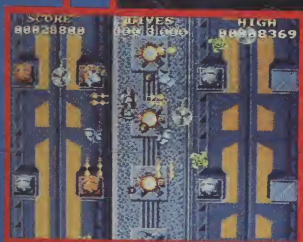
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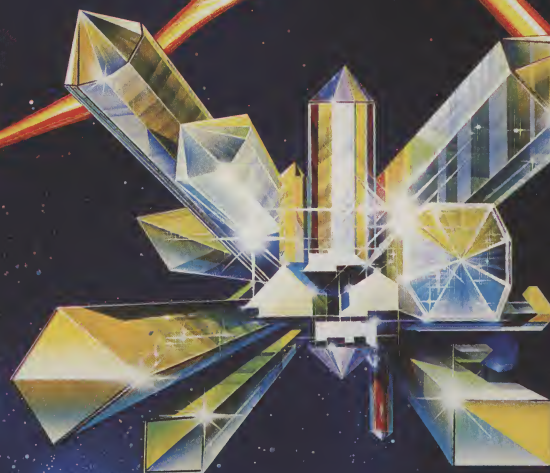
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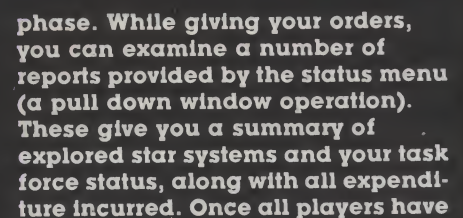
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SSG would like to be known as Australia's answer to SSI. With Electronic Arts involvement they may well go one better. Andy Moss sizes up their latest project.

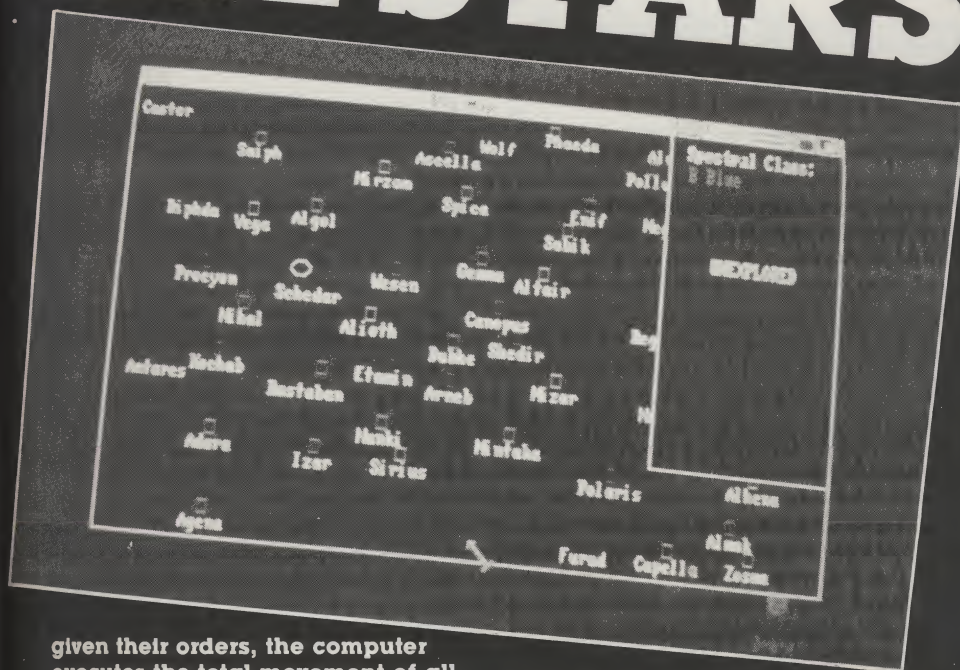
Reach For The Stars is a game of galactic exploration, colonisation and conquest. Throughout the game you must explore new star systems and colonise the most promising planets. Once colonised, your planets then are able to produce resources which can be allocated to various options such as

The game is played out over a number of turns, with every odd numbered turn being a production and movement phase and every even number a movement only



THE STARS

"sometimes" strategy player, as this could well be a bit overwhelming for you. But rarely have I seen a game so comprehensive as this one, the trouble is you need to take a year off to play it!



given their orders, the computer executes the total movement of all ships and deals with possible combat, which occurs when more than one ship enters a star system. If you manage to beat off the enemy, and you have a warship in orbit, then you get the chance to attack the actual planet itself. If you then manage to destroy all the planet's defences (this is calculated on the amount of manpower you have available) then victory is yours and you can add that planet's resources to your own and build up a huge task force towards the conquest of the whole galaxy.

In the tutorial, you are given Furud as your home planet, and it is represented on screen by a cutely drawn spinning world, not unlike our own Earth. The first thing to do is to produce scout ships and send them out to neighbouring planets to provide you with information on whether or not they are ripe for attack. Graphically, the game is nothing special. Of course the Amigas improved graphic capability has been utilised, but not to the extent of a work of art by any means. In a strategy game such as this it is really of no consequence, as the core playability of the game is the thing that is crucial. You need plenty of facts and figures, and constant update charts rather than spectacular animation, and SSG have succeeded in this, although the sampled solemn religious chanting that cuts in when any

Empire has fallen is a bit unnecessary.

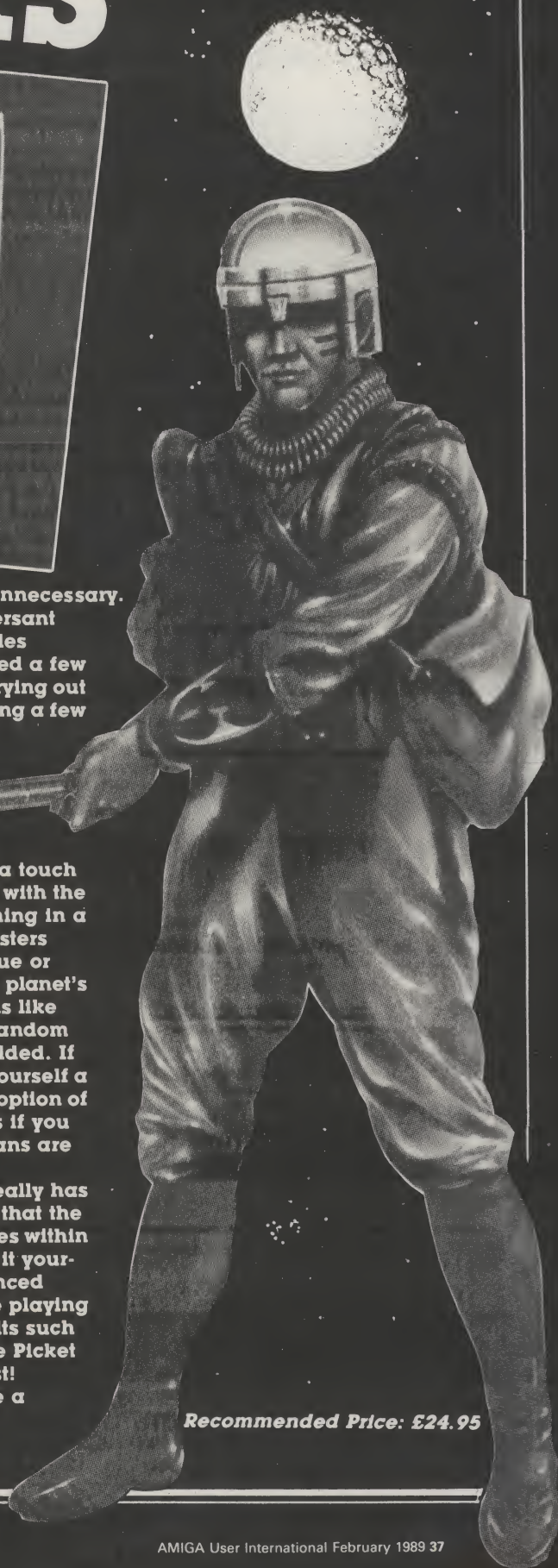
When you are fully conversant with all the varying strategies needed, and have completed a few games at the lower levels, trying out the advanced game will bring a few

extra options. Novas bring a touch of instability to the galaxy, with the risk of obliteration of anything in a novad system, natural disasters such as earthquakes, plague or pollution can be built into a planet's evolution, and other options like adding space debris and random star mapping can all be added. If you really feel like giving yourself a hard time, there is also the option of adding enhanced Veterans if you believe that ordinary veterans are proving too easy to beat.

REACH FOR THE STARS really has so many options available that the only way to uncover what lies within this game is to experience it yourself. SSG explain the advanced theories of play almost like playing chess, with opening gambits such as The Trout Variant, or the Picket Play or even the Isolationist!

Beware though if you are a

Recommended Price: £24.95



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MIDI

Yamaha's RX21 drum unit

In our article on MIDI equipment in the January issue of AUI, Paul Overaa described the implementation chart for Yamaha's RX21 drum unit. Here is the actual chart that shows the details of the Yamaha system:

(Digital Rhythm Programmer)

Modi RX21 MIDI Implementation Chart Version : 1.0

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	x	1 - 16	memorized
	Changed	x	1 - 16	
Mode	Default	x	3	
	Messages	x	x	
	Altered	*****	x	
Note		x	45 - 60	★1
Number: True voice		*****	45 - 60	★1
Velocity	Note ON	x	o v=1-127	
	Note OFF	x	x	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bender		x	x	
		x	x	
Control				
Change				
Prog		x	x	
Change : True ★		*****	x	
System Exclusive		o	o ★2	pattern, Song
System : Song Pos		x	o	
: Song Sel		o 0 - 3	o 0 - 3	
Common : Tune		x	x	
System : Clock		o	o (MIDI mode)	
Real Time : Commands		o	o	
Aux	: Local ON/OFF	x	x	
	: All Notes OFF	x	x	
Mes-	: Active Sense	x	x	
	sages : Reset	x	x	

Notes: All messages except System Exclusive are bypassed to MIDI OUT.

★1=Note number 45, 48, 50, 52, 53, 54, 57, 59 and 60 which correspond to each instrument are recognized only in CH INFO AVAIL.

★2=System Exclusive messages are received in SYS INFO AVAIL.

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO

o : Yes
x : No

AMIGA SYSTEM PROGRAMMERS GUIDE

Abacus

Mark Smiddy looks at a vital link in the chain to programming success.

I have never really been a fan of Data Becker's books. After ploughing through the extremely terse text of their 3D graphics edition, I found myself utterly bewildered by the poor translation and the overall poor production. Surely though, no self-respecting editor would allow a publication out of his sight that contained so many long, tenuous listings, which few would ever bother to read and less attempt to type in.

3D graphics was for the Atari — the principals involved are the same, and remember: "It pays to know thine enemy before thy scoffs at him!" Even so, I was expecting pretty much the same mindless dross interspaced with useful hints when I started to inspect this gigantic tome which weighs in at over 400 pages packed mainly with text and very few of those unwelcome, lengthy listings. There are programming examples where explanation is insufficient, but they really are kept short enough to be typable.

From that short introduction then, you may have gathered this book is a veritable mine of good information — a real feast for any knowledge-starved programmer new to the multi-tasked world of the Amiga. For a change, it is well written and reasonably well translated from the German — in fact a real departure from Data Becker's previous attempts. The only thing really lacking in any sense of the word is at the back — in the form of a

tentatively short index which only manages a few pages of fairly large type. In a book of this size and complexity, a better index would have been a boon.

Criticism aside and starting from the front, this new volume launches in like an all-in wrestler with a no-holds barred description of the Amiga's hardware design. This includes a basic overview of the system itself and a description of how everything interacts. However the section starts with a very detailed account of the heart of the Amiga system — the 68000 central processor unit.

"There is even a discussion on the 8250 Complex Interface Adaptors (CIAs) and how to program them — the sort of technical information only usually found on manufacturers data sheets."

Of course, any programmer worth his salt should at least know a little about the 68000, but this book takes the reader much further with a full description of the hardware signals available from the chip, what they all

do and how the Amiga uses them. There is even a discussion on the 8250 Complex Interface Adaptors (CIAs) and how to program them — the sort of technical information only usually found on manufacturers data sheets.

Interestingly enough, in the discussion of the Amiga's disk drives there is a circuit detailing how to connect a standard Shugart interface to an Amiga. This means you could feasibly build your own second or even third drive directly from spare parts. However, they neglect to mention a little point about the low track access time required by advanced machines like the Amiga — about 3ms maximum — in order for them to operate correctly. Many older 5.25 inch and some cheap 3.5 inch floppy drives just can't cope with such a high stepping rate causing the machine to lose count of its tracks.

Finally, this section includes a lot of information on the chips that set the Amiga aside from other 68000 based micros, the custom chips — Denise, Paula and Fat Agnus. Amiga 1000 owners need not feel left out here either, both Agnus and Fat Agnus are covered in great detail with any notable differences outlined. As are the Blimmer (or Blitter if you prefer) and the Copper — the full command set and registers are listed. Also here, a few well placed listings explain the construction of special graphic modes like: HAM, dual-playfield and extra half-bright. After the overview the

AMIGA SYSTEM PROGRAMMERS GUIDE

book properly spends a great deal of time and a lot of space explaining programming the Blimmer and the Copper.

The last part of the hardware section includes a full discussion of the Amiga's best feature — second to graphics — its sound. Rather than expecting the reader to have gained some prior knowledge in this area, the book serves a good introduction in to the principals of electronically generated sound, before launching in to some heady text about how the Amiga performs such mystical feats. This kind of ground up description is essential in this sort of text and I was

very pleased to see it, many authors would do well to follow Data Becker's example on this score.

Section two of the book covers the Amiga's operating system Exec. Once again after an introduction to the elements, full description is given to such subjects as; libraries, multi-tasking, memory management, I/O handling, interrupt handling and even the ExecBase structure and how to write reset proof programs, should you want to.

Section three covers the definitive AmigaDos and Amiga disks. AmigaDos has always come in for a lot of stick — but it really is much more powerful than people really imagine — especially when you consider it only accounts for about 40K or so of the ROM. This section covers the essentials of Dos, and how the Amiga stores information on a disk. However like the previous section, information only applies to version 1.2 of Kickstart, so if you have version 1.3 some or all of the supplied listings won't work. I have not had the opportunity to put this to the acid test, however.

The last section of the book attempts to throw some light on to one of the more confusing elements of the Amiga for those brought up on

early 8 bit machines — devices. Each device is taken in turn and described in fluid detail. Even so, the best way to learn how to use each device is by experiment and I felt there were too few useful examples, perhaps I am being too critical though.

At the end of the book is a concise guide to the libraries. This lists all of the original libraries supplied up to release 1.2 so it covers just about every operating system in general use. However no attempt has been made to explain what each one does. An understanding of the C language is essential if the reader is to understand this, and as such the section can only be used as a handy reference.

All in all, the Amiga System Programmers Guide is a thoroughly good read. It falls down in places, but then again it is difficult to be perfect and if the writers had included all of the material that could feasibly be written about programming the Amiga, you would probably need a small lorry to carry it all, I can recommend this book — almost without fear of reproach — to anyone who wants to either program the Amiga, or just get to know the workings of this remarkable little micro that little bit better. Excellent.

M.S.

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Z88

How do you increase the flexibility of your Amiga? Add a laptop, not just any laptop . . . Alastair Statham plugged in something special.

Each year computers get smaller and cheaper while their memories and storage capacities get larger. There is now talk of a PC compatible computer with one Megabyte of memory that is no bigger than small paperback book. At the present time the price of most laptop computers is still high enough to deter any but the most ardent users. If someone were to come up with a computer that was small and lightweight, that could reliably store and retrieve data, had an 80 column display, would last more than just a few hours on low cost replaceable or rechargeable batteries *and* was cheap, it could have a tremendous appeal to all manner of people. Anyone with a long journey-time to and from work could make use of those wasted hours. School children could use it to take classroom information home and homework to school. Journalists could type their report on the spot, edit it and then relay it via a modem direct to the press office. Salesmen could use it to give customers the latest up to date information. The list is endless. Once the price is low enough they could become as popular as the modern pocket calculator, people may even buy them just in case they should need one.

There is one computer that has almost fulfilled all of the above criteria – the Z88 – another marvel from the Sinclair stable. It is a reasonably compact A4 × 1", a lightweight 2lbs, can store and retrieve data from internal RAM or exchangeable EPROM units, has 100 col × 8 row supertwist display, runs for up to 20

"I marvelled at how clear and easy to read the display was and I found the keyboard, much to my amazement, was a delight to use"

hours on 4 pencil (AA) batteries, will soon (?) be expandable up to 3Mb and is now under £250.00 excluding VAT. At this very moment I am sitting on a train writing this review. When I get to my office I will attach the Z88 to my Amiga

A1000 via a serial lead and by running a simple comms package on the Amiga. I will be able to transfer the review to the Amiga for final editing and printing. If for any reason the Amiga was not available I could instead attach the Z88 direct to a Serial or Centronics printer, via an appropriate adaptor-lead.

When I first saw a Z88 I virtually dismissed it as a toy because of its rubber keyboard and small display. Luckily, I was tempted to play with it for a while. I marvelled at how clear and easy to read the display was and I found the keyboard, much to my amazement, was a delight to use. Then, with only the onboard help and display template, I quickly found my way around the internal software – I was so impressed that I bought it.

you to configure the Z88 to enable it to operate with most printers. Panel enables you to change many of the Z88's software selectable parameters such as RS232 data transfer rates, Auto key repeat rates, Power Off timeout limit etc. The screen map can also be toggled on and off from here. Terminal is just that, a simple VT52 terminal program. Imp-Export is a useful utility to permit the transfer of data to and from another RS232 device. In my case I use it to send and receive data from my Amiga 2000. It can be set to transfer individual files or batches of files automatically. Last but not least is Pipedream. This is a multi-talented program and is one of the Z88's most useful features. It is a word processor, Spreadsheet and Database all rolled into one.

Every Pipedream document is divided into rows and columns labelled in the traditional spreadsheet way. There are, however, two different types of slots in Pipedream. As well as the usual spreadsheet expression slots there are text slots which are used for editing continuous text. Text entered into a text slot will overspill across any blank slots to the

PIPEDEATH	LOC	0F	Next File	0FH	ADVANCE
BLOCKS	Save	0F5	Previous File	0FP	◊ ◊ ◊ ◊
CURSOR	Name	0FC	Top File	0FI	SELECT
EDIT			Bottom File	0FB	DO IT
FILES					RESUME
LAYOUT					
OPTIONS					
PRINT					

PIPERDEAN	1234567890	Search	ORSE	Word Count	OBMC	1234567890
BLOCKS	Clear Mark	Next Match	ORIM	New	OBHEW	ADVANCE
CURSOR	Replicate	Replace	ORBP	Recalculate	OA	SELECT
EDIT	Copy					DO IT
FILES	Copy					RESUME
LAYOUT	Delete					
OPTIONS	Sort					
PRINT						

On powering up the Z88 (by pressing both SHIFT keys together) you are presented with a cursor driven three part display. On the right is a screen map, a pixel per character, graphic representation of the last/current file edited. In the centre is an area used to display the names of any files you are working on and on the left is a list of functions/programs that are available to you. They are: Pipedream, BASIC, Filer, PrinterEd, Panel, Terminal, Imp-Export, Diary, Calculator, Clock, Alarm. The last four are popdowns and do much as their names imply. BASIC is a fairly complete version of BBC BASIC, well known for its use in education in the UK. Filer takes you into a Menu driven, RAM & EPROM file management system. PrinterEd allows

right until the cursor reaches the right-hand edge, when the text will automatically wrap around to the next row. A wide range of mathematical and scientific functions are available for use in expression slots. Text and expression slots can be freely mixed in the same document to include tables of data within the text. A comprehensive menu system controls the functions and operations available within Pipedream but for those who prefer keyword driven applications this is supported too.

The block menu controls the movement and manipulation of data within the cells making up the document. Cells may be moved, copied or sorted. A marking function facilitates these operations for ranges of cells. The search function is a

Z88

great help when writing long documents. Together with the powerful sort facility it is probably the most useful function to those using Pipedream as a card-type database as it allows record selection to be made and even supports wild-card searching. The replace facility is more likely to be of use to document writers who need to exchange one string for another. Replace will optionally replace all incidences of the target string or will

"Text and expression slots can be freely mixed in the same document to include tables of data within the text"

prompt the user each time a match is found. The case structure of the original string is preserved in the substitution. Another useful feature for the writer is a word-count function.

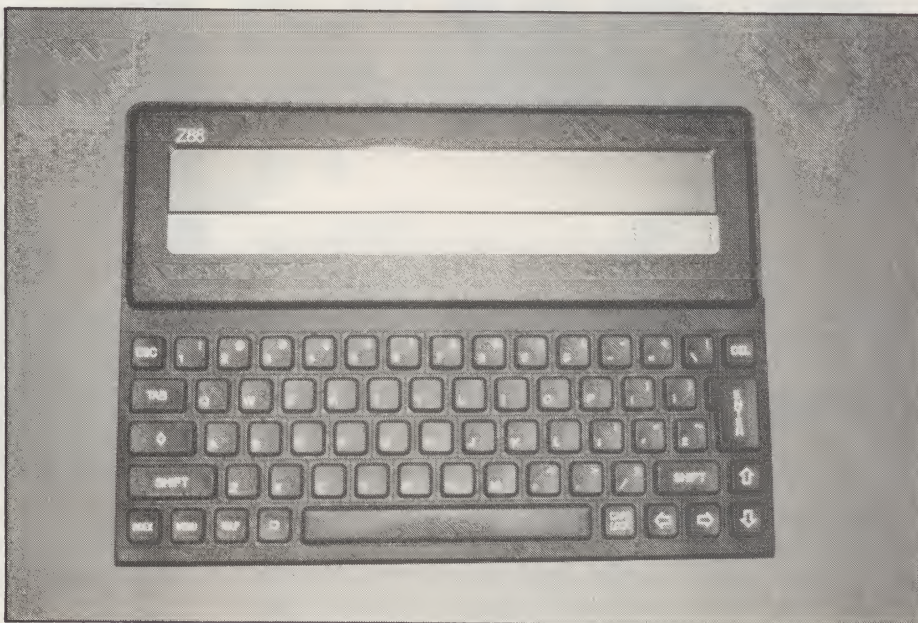
Editing and cursor control is extremely powerful. Cursor movement is possible by character, slot, line, and screen. You can insert and delete by character, column or row and also delete whole words from the text. If you need to reformat your line layout you can split or join lines with ease. When you reach the end of a logical page, Pipedream will automatically insert a soft page break for you, although you can insert your own hard page breaks wherever you want. A swap case command will exchange upper and lower case characters to avoid the need to retype existing text. Expression slots are edited as if in a normal spreadsheet. You can load or save documents to RAM files, either as a whole or in selected ranges of slots. List files are used to define the components of large multifile documents. This overcomes the problem of editing documents too large to fit in memory, by editing one manageable portion at a time.

The layout of a document can be as simple or complex as you wish. The layout menu provides control over margin and column widths and allows you to define multicolumn pages. You can also fix rows and columns to allow only the non-fixed portions to scroll. This menu also defines the format of numbers and right/left alignment settings. The options menu controls attributes such as page length, line spacing and margin format. It also controls text justification. An indication of remaining character space gives a warning to stop soon or, if possible, shut down other tasks to make more room. Unlike many other systems, where a memory shortage can kill the system, the

Z88 gives ample warning and even when out of memory allows you to shut tasks down to recover the situation. Little things, like not losing an hour's work because you did not realise memory was getting low, make all the difference between a toy and a professionally usable system.

The print menu is used to control the hardcopy function. Various options are available, such as microspace printing, alternate and user defined fonts and print

machine by a further 32k. Various accessories and expansions are now available. These currently include 32k, 128k and 512k RAM packs, serial and parallel printer cables and packages to link the Z88 to an IBM/PC or BBC micro. A mains adaptor, modem and EPROM eraser are also on the order form. Sir Clive once had a less than enviable mail-order reputation. When I telephoned Cambridge Computers Ltd I was told that although



highlighting. Italic, bold and underline printing is available together with subscript and superscript, which should please those who use scientific or mathematical formulae. The necessary escape codes are added to the text at the current cursor position by selecting these menu items to toggle the various modes on and off. When the print option is chosen the user is asked whether to print the whole document or a selected portion. When printing the whole document there is a pause after each complete page when the user can elect to miss a page, abandon printing, or carry on (with or without further prompting). The printer is attached to the nine-pin serial interface which supports CS/RTS hardware handshaking and has a DCD line for use with a modem.

"Editing and cursor control is extremely powerful. Cursor movement is possible by character, slot, line, and screen"

Having used the Z88 for a while, I have grown to depend on it. It is so readily portable that I take it almost everywhere. I will soon be expanding the basic 32k

the order-forms said to wait 28 days, most orders were processed within a week to ten days. This has not been borne out by my wait of three weeks so far and I am still waiting, but then again my order was only for special offer freebies that came with the machine. After the C5 disaster, Sir Clive has come up with a winning product. I certainly believe he has succeeded with the Z88. According to figures from market research company Romtec, the Z88 has outsold all other battery powered portables in the last quarter of 1987. With a little luck it could even replace the obligatory filofax of any self-respecting yuppie. It certainly deserves to.

A.S.

Price: £287.50
Contact: Cambridge Computer Ltd.
(0223) 312216

ARKANOID REVENGE OF DOH

Imagine

The mountains of Arkanoid clones and variants that have appeared since Taito's coin-op hit the arcades has got out of hand. Whether you are bouncing coconuts off a bamboo stick, or breaking out of space station, it's always the same. For the Amiga many of us still think Discovery's Arkanoid set an unrivalled standard.

Revenge of Doh takes the space station approach, the ball is an energy bolt and the bat is a Vaus space craft. Just as before, bricks frequently drop coloured capsules to be caught by the Vaus for extra powers. All the same gizmos from the first Arkanoid have been included, the lasers and expanding bats for example. Some new additions give instantly re-generating balls and a random capsule that can fill the screen with laser fire and clone balls among other things.

Once you have cleaned a screen, exits appear on both sides, each one leading to a different screen. There are also a few other alterations dotted throughout the game, moving bricks and bouncing aliens for instance.

Discovery Software made a great job of the Amiga version of Arkanoid, but Revenge of Doh looks very much like an ST port. Such a simple game as this should not pose any problems for the spritely Amiga, but Doh has some nasty flicker and ghost images that should have been ironed out. The sound effects amount to no more than mere pings and blips.

As with any Breakout clone, Doh is instantly playable, but has nothing over any other similar game. The first ten minutes are good fun as you get to grips with the new weapons, but after that

"The first ten minutes are good fun as you get to grips with the new weapons, but after that there is nothing to keep you playing."



"Once you have cleared a screen, exits appear on both sides, each one leading to a different screen."



there is nothing to keep you playing. There is no reason why anyone new to computer gaming should not give it a shot, but I cannot see many existing Arkanoid players getting much from this dose of Arkanoid déjà-vu.

B.V.

Graphics: 5
Sound: 5
Playability: 5
Value: 5
Price: £19.95

PD FREE, GRATIS AND PRACTICALLY FOR NOTHING

In this month's Public Domain software feature, Stuart Williams looks at more programs from the library of 17 Bit Software, some serious, some fun, some silly!

PD

Bank'n

Seventeen Bit Software's disk number 151 contains a remarkably useful suite of Shareware programs which rejoice under the generic title of 'Bank'n'. As you might suspect from the title, these programs are used for the purposes of managing what little money you have left after feeding your hungry Amiga!

The Bank'n system allows the user to keep his or her bank account in perfect balance with a minimum of effort. The principle is simple; you firstly enter your incoming and outgoing transactions into the cheque-book journal program as they occur. You are notified of the resulting balance after each transaction has been entered.

Prior to making use of the system, you may configure the expense code table to suit your own personal situation and input specific budget amounts for each category if you so wish. It is possible to produce a regular monthly reconciliation as well as a number of detail and summary reports. One of the more useful functions provided in the Bank'n system is

the ability to search the cheque book journal for the occurrence of any desired search argument. The system is in fact composed of a suite of eight programs, each with a specific purpose:

- Bank'n - Main Menu
- OpenAct - Open Account
- ExpCodes - Enter Expense Codes
- Checkbook - Chequebook journal
- Reports - Reports
- Query - Query chequebook
- EOY - End of Year
- Inst - Instructions

The Bank'n Main Menu program allows you to set your initial preferences and provides a simple linkage between all the Bank'n programs. Main Menu is automatically executed when you select the Bank'n icon from the workbench. To execute the system from the CLI, simply enter "Bank'n" in normal fashion. The Open Account section enables you to commence by entering your name, beginning balance and beginning cheque number. An option is provided to force strict sequence control for cheque numbers.

The Expense Codes program allows the setting up of expense codes to which your cheque book transaction amounts will be applied. An expense code must be assigned to each

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PD

Free, Gratis and Practically for nothing

continued from page 45

Sonix Jukebox 14

Definitely one for the computer poseurs on Seventeen Bit Disk 190! Sonix Jukebox 14 is, quite literally, a program designed to play tunes created with the popular Aegis Sonix music composition program. Far from being a jukebox, however, the screen shows a Compact Disk player and a stereo tape deck! From this screen, it is possible to select and play, using the mouse, a selection of fourteen tunes. Most are reasonable demo-style compositions, but there are a couple of real goodies from Jean Michel Jarre's 'Magnetic Fields' and 'Rendezvous' albums!

Those of you with A500's or A/B2000 Amigas will no doubt appreciate the 'Dolby' switch which enables you to turn off the audio filter in your computer and regain some of the lost high frequencies which A1000 owners have to suffer. In any event, whichever Amiga you own, Sonix Jukebox 14 is definitely one for showing off your machine — demonstrate it to your Atari, Spectrum and Amstrad owning friends, and have a good laugh as their jaws hit the floor! Recommended for entertainment value. Sonix Jukebox 14 is of course Public Domain.

Bootwriter

An amusing little program called Bootwriter is to be found amongst the hordes of more serious minded utilities on Seventeen Bit Software disk number 146. No, it is not a boot block editor, at least not in the normal sense. In fact, it's very easy to use utility designed to let you install a traditional Amiga scrolly message in the boot block of a disk, so that when the disk is booted, your message scrolls from left to right across a screenful of multicoloured stripes which scroll down the screen in the

background. Not one for the easily seasick, as some pretty wayout colours can be introduced here, as the coloured stripes are yours to command!

The program includes a text editor to design your scrolly message, a text positioner to enable your message to be placed where you want it on screen, and of course the stripe editor! Once you have designed your scrolly boot message, you can test how it will look, then write it to df0: or df1:. Be very careful here, as it would not be wise to write anything to the boot sector of a protected disk such as a game! Disaster would probably result, and your disk would be useless, as many protection systems rely upon the boot block to work. Fortunately, normal boot sectors, as used in unprotected disks and produced by Install, do not appear to be affected; when you reset the system, your scrolly message and wild coloured stripes are displayed for all to see! A press of the right hand mouse button allows the normal boot process, whether Workbench or CLI, to continue and any programs to run as normal.

While Bootwriter may seek a silly idea at first, it could be used as a fun way of identifying your disks and keeping track of them, or even passing on messages to your contacts when you swap PD software. Definitely one for the toolkit!

S.W.

chequebook transaction to be used for query purposes and for producing summary reports. The chequebook program provides the method for entering your day to day transactions and keeping track of the final balance. The Reports program enables the reconciling of your account and provides other detail and summary reports relating to your transactions.

The Query program allows the designing of reports in any required format. You decide the selection criteria, the sort sequence and the output display or print format. The End of the Year program allows you to reset your transaction database in preparation for a new year. Finally, the Instructions program provides on-screen help relating to the use of the system.

In all, those of you who need to whip their chequebook into line might like to take a look at this set of programs. Those who, like me, have an account which is empty most of the time, may find it less useful!

PD

PD

The word is PROTEXT...

At Last! Announcing PROTEXT - the best Amiga word processor

PROTEXT is very fast! Unlike the majority of Amiga word processors PROTEXT scrolls very quickly and redraws the screen in next to no time. We have achieved this by developing our own screen handling routines - much faster than the standard ones (this is one reason why it has taken so long to finish).

PROTEXT uses the Amiga 'WIMP' interface fully and supports pull down menus, use of the mouse for cursor movement and block copying and window resizing. PROTEXT makes full use of Amiga Preferences settings and is fully compatible with the Amiga's multi-tasking operating system.

Protext is the result of 4 years of development. Unlike the majority of competitive programs Protext is 100% British and is being developed further all the time in response to the needs of British users. Registered users are always informed when upgrades are available.

Just as a taste of what reviewers are going to say about Protext, *Amigacomputing* described Protext as:

"the best word processor for the Amiga"

and they were only looking at a pre-release version.

A brief summary of some of Protext's features ...

Background printing edit/create further files while printer is busy
Box manipulation move, copy, or delete any box as well as blocks
Configuration set over 50 options to your own preferences using our menu driven configuration program
Dictionaries add/delete words to/from supplied 70000 word dictionary. Create your own personal dictionaries.
Disc utilities copy files, erase, rename, type, create directory, change directory, remove directory, catalogue files
Exec files store sequences of commands in files for easy use
File conversion flexible file conversion utility for other WP files
Find & replace very powerful and fast with many options.
Foreign languages 10 built in keyboard languages. Easy to use accented letters: ä æ ç ö ü è é ß à ù ð ñ etc.
Formatting auto-reformat, or reformat para, block or whole text.
Headers & footers up to 9 lines of text, different even/odd headers and footers, auto page numbering, footnotes.
Help edit and command help available on-screen
Keyboard macros string any sequence of letters together on a single key e.g. "Yours sincerely". Load and save macro key files. Special recording mode as you type.
Line drawing ideal for drawing lines (incl. corners) around text
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"Once up above the roof-tops you can survey the ground below at a leisurely pace and advance warning of any anti-aircraft missiles."

Thunder

Amazingly fast 3D has become something of a trademark for Sega. Their unrivaled expertise in this area first came to light with Space Harrier, a simple 3D shoot 'em up with the added novelty of a moving cabinet. Since then the cabinets and monitors have grown to unbelievable sizes and the visuals have followed suit. If there were an odd one out in the series, it was Thunderblade. Instead of using hydraulics to simulate the action seen on-screen, the joystick was used for a similar effect but was entirely mechanical. This led to very sluggish control response, and strangely enough the smaller stand-up version was more playable. Although I never thought of it as one of Sega's best, Tiertex have still come up with an impressive home computer game.

In all there are twelve sections, three in each of the four levels. The start of the first stage sees your chopper sitting quietly on the tarmac of a main road flanked by towering office blocks. Tanks armed with



homing fireballs easily put an end to low level pilots, so taking your chopper up to maximum altitude is essential for survival during the opening seconds. Once up above the roof-tops you can survey the ground below at a leisurely pace and advance warning of any anti-aircraft missiles. The unusual use of 3D graphics is very realistic, helped by a smooth update.

Part two is set in the same worn torn city but this time you see everything from behind the chopper in a more conventional 3D style. The same tanks let loose their heat-globes and carelessly parked cars provide extra targets for your guns and missiles. There is one problem here, and that is that your helicopter sprite creates a blind spot in the middle of the screen, masking a lot of the enemy tanks and aircraft. The best way around this seems to be to weave from side to side so you get a better overall picture of what lies ahead.

The third part of level one is definitely the weakest and comes as a bit of a disappointment after the first couple. Once



Blade

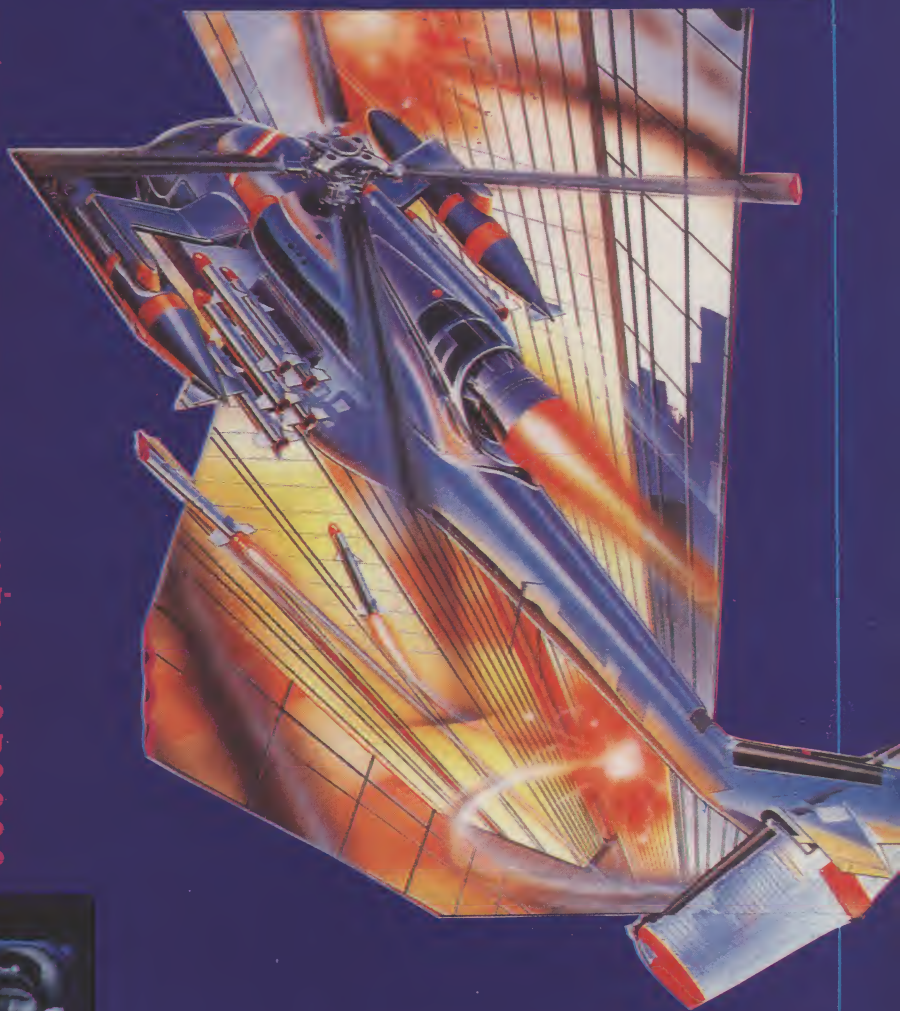
US GOLD

again the view is from above but this time there is no perspective in the graphics. It is no more than a standard vertically scrolling shoot 'em up, and in this case the scrolling is pretty scruffy. Frustration is brought on by the overwhelming amount of flak that fills the skies.

Back to the perspective views of the initial stage for the start of level two, but unfortunately the stoney walls of the canyon fail to give the same impression of height. With that under your belt you enter the stalagmite filled caverns, which for the sake of speed no doubt, have been converted from the coin-op into wide open spaces enclosed by rock walls; not a compromise that takes too much from the game.

Further on you encounter an enormous jet fighter and cross a marshy wetland. The final confrontation with the enemy stronghold comes once you have penetrated the heavily defended cityscape of level four.

Thunderblade is a bit of a mixed bag. Some parts have been translated from the coin-op very accurately, the opening scene for example. Other areas are not so satisfying. Dicey collision detection is one that shows itself throughout the game. The third section of each level lowers the tone



with some rough scrolling, but on the whole the good points far out-weigh the bad.

There is a bit more to this than the average arcade conversion, and with its three distinct stages to each level it should keep you playing longer than a straight 3D shoot out. Give it a go if you think you can handle the high level of punishment it dishes out.

Graphics: 8
Sound: 7
Playability: 6
Value: 6

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HEWLETT PACKARD DESKJET

Making its mark on the professional market, HP's Deskjet has a bit of character about it, says Peter Lee

Dot matrix printers are all very well for the rough and tumble of home use but in today's business world it is image that counts. It is hardly likely to induce confidence in a prospective client if your correspondence is printed out on perforated stationery by a standard dot matrix printer. So what is the answer? Laser printers are top guns when it comes to quality – but they will shoot a hole right through your bank balance. The solution, then, is to compromise.

The new 24-pin dot matrix models offer a big improvement over their fore-runners but a quality ink-jet printer offers consistently better results. Hewlett-Packard's Deskjet printer is a compact, businesslike model which unfortunately may be just out of the price range of most Amiga enthusiasts – but which is ideal for the professional user. It is a solid-looking machine, though not too heavy at just over 14lbs. At 17 inches wide, 14 inches high and inches deep it would struggle to fit on most desks already containing an Amiga but will sit comfortably nearby without seeming to crowd the environment.

'A nice feature of this model is its ability to print envelopes.'

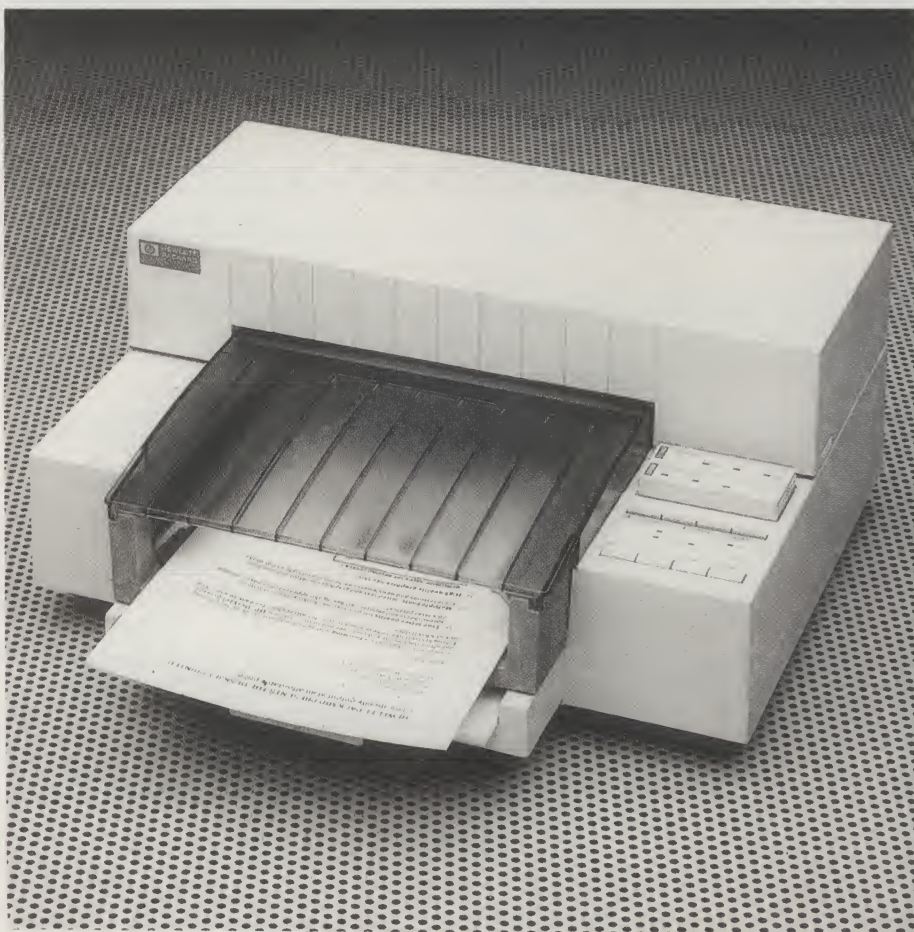
The Deskjet has a novel and striking design; it has two trays at the front end – an in-tray for the paper stock and an out-tray immediately above this for the printed work. Paper is fed around the roller to emerge again at the front after the job is finished. This is a single-sheet, automati-feed machine with no option for continuous stationery and I was surprised to find warnings in the manual against using normal ink-jet paper. Recommended is good quality photocopying paper, which I found gave polished results but which tended to absorb rather a lot of moisture from the

ink on graphic dumps. These took some time to dry and could easily smudge if handled carelessly. Correspondence printouts, though, were without question of very high quality.

I had to drive the Deskjet from the Amiga Preferences version 1.3 because my copy of Workbench 1.2 did not support the model; at a pinch the H-P laser-jet drivers could be called into service but the dedicated driver should be obtained at all costs to get the best out of the machine. One or two commercial

programs also supported it (after all, 1.3 has not been around all that long).

The printer is equipped with both serial (RS232C) and parallel (centronics) interfaces and my testing was carried out using the standard parallel cable, which you must buy separately. The machine has a 16K RAM buffer, which is useful for freeing the computer quickly once a dump is in progress and is extremely versatile and compatible with many computers, including the IBM PC – handy if you mix home and office work. In fact a



continued on page 56

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**HEWLETT
PACKARD
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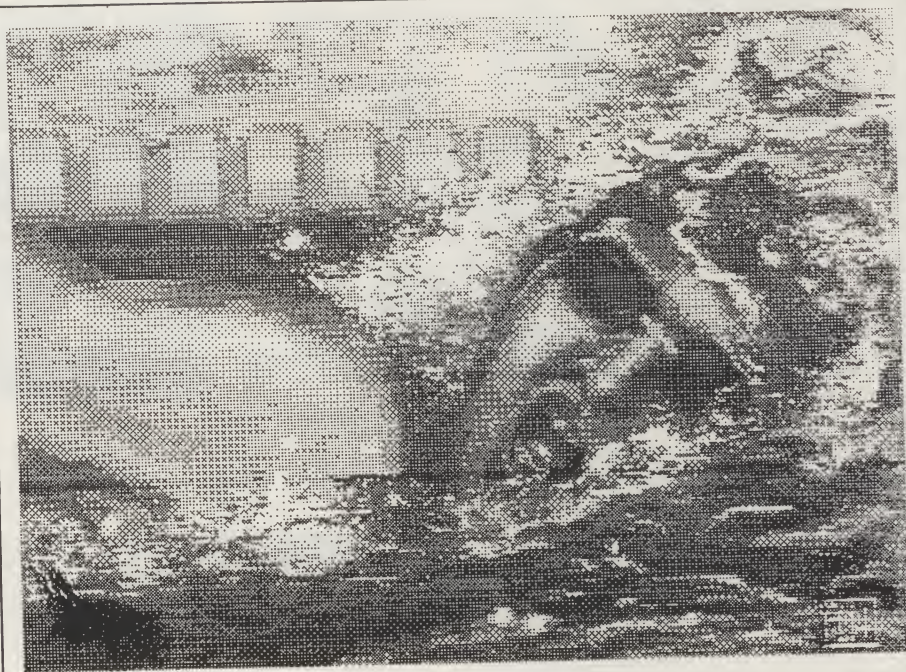
large chunk of the manual is devoted to getting the best out of the printer with the high-flying programs in the PC business world – but not a word about Amiga-specific problems. An urgent need for an appendix I would have thought...

The printer comes with a 20 volt transformer about the size and weight of a half-brick and is relatively quiet as the print head glides across the paper. The only really noisy part of the operation is the clunking as the rollers take up sheets of paper from the tray. Two series of DIP control switches are located within easy reach at the front of the machine, though the review model needed no adjustments here to perform faultlessly with the Amiga. A nice feature of this model is its ability to print envelopes. These have to be fed in manually but the results add that finishing touch to a letter.

The Deskjet uses liquid ink to print with and this is provided in a sealed container which is easy to install and remove, though there are dire warnings about touching any of the gold contacts which are located at the front of these ink cartridges, because it will depend on your output – graphics and letter-quality dumps will use up most ink, though at the UK prices of £12.83 (ex-VAT) per replacement, this is not a machine to be used frivolously. Still, compare that with the price of laser toner and it seems cheap.

'The manual is a quality product, like the printer itself, with explicit instructions and illustrations.'

There is only one font on board the printer, Courier, which can be printed in 10, 16.7 or 20 character per inch. There is no italic face, though bold and underline are supported along with super and sub-script. If you need more fonts – and let us face it, you quite likely will – then additional cartridges are available in the UK for between £58 and £96 (ex-VAT). The font modules pop into two slots at the front of the machine and several faces are already available – Prestige Elite, Letter Gothic, Times Roman, Helvetica and Presentation. However, the printer also supports downloadable fonts (ones fed into it by the user's computer), though this means the purchase of an optional RAM module. Another cartridge which would be a good investment is the Epson FX-80 emulator, which will configure the Deskjet to a standard which most people are familiar with and which is

[illegible][illegible]

very common among Amiga users. Bying a snap-in cartridge is also the only way you will get proportional spacing from the printer, which for this money is a pretty raw deal in my opinion. The choice of fonts is controlled through the printer's keypad; this allows all the on-board fonts to be toggled through (including those added as cartridges). This pad also allows selection of output – draft or letter quality. The former zips along at 240 characters per second, the latter at a still impressive 120cps.

As far as graphics are concerned, one grey-tone dump is very much like another. from Workbench Preferences; as an Okidata/Epson user I could see no real improvement in quality by using the Deskjet printer. True, the blacks were richer but otherwise the dot-patterns were standard fare and not the sharp images I was hoping for. I was also disappointed at a dump from Professional Page, which was only moderately better than an ordinary dot-matrix printer.

The manual is a quality product, like the printer itself, with explicit instructions and illustrations for what is really a plug-in-and-go machine (with a bit of care, that is!). However, there is too much emphasis on the PC and other machines, to the total exclusion of the Amiga.

CONCLUSION

People using Amigas in the highly competitive world of business cannot afford to be let down by shoddy presentation. A letter may be the first inclination a prospective customer will have of you, so a professional look is vital to creating a good first image. The Deskjet gives the kind of entry-level letter quality output which almost matches that from a laser printer (graphics apart) and at a comparatively low cost. Of course there are problems — the limitations of one, very standard font in ROM with the lack of proportional spacing or even italics. It would seem that the cost of the printer will begin to rise sharply when you take into account purchase of at least a couple of font modules, a printer cable and replacement ink cartridges, not to mention RAM for soft fonts and maybe the Epson emulator if you need it. However, there is no denying the excellent text output from a very nice and well-designed machine. If letter quality is your benchmark, then HP's Deskjet certainly measures up.

P.L.

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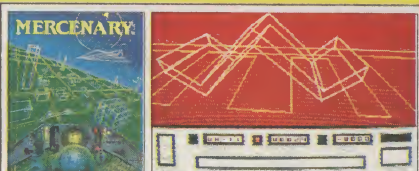
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THE AMIGA

Part I

New Sales of the Amiga over the end of year period have brought yet another boost to the user base of the best computer the home computing market has ever seen. Many new users will doubtless have lots of questions. In an attempt to help you get the answers to your questions as quickly as possible we have asked Susan Maxwell to produce a 'right from scratch' tutorial series on the Amiga, its operating system, and what it can do. New owners — and those still willing to learn — start here.

Commodore's Amiga computer has been around for some time but the recent introduction of the less expensive A500 model has now put the machines within the grasp of a much larger section of the computer-buying public. If you have just pur-

the user, interact with many programs not by typing awkward control sequences but by using the mouse to do such things as turning switches on and off, moving slider controls, or selecting options from menus 'pulled down' from the top of the display as they are needed. If you wish only to use the machine for specific applications, as opposed to learning how to program it, then what this means is that you will find the Amiga very 'user friendly', i.e. it will be easy to use.

The Amiga also scores highly with its sound capabilities. It can talk, has excellent internal sound synthesis capability (just try listening to some of the demonstrations that are available) and boasts a serial port which can handle the high speed MIDI (Musical Instrument Device Interface) data transfer.

Why is MIDI important? Nowadays almost all new musical equipment is provided with MIDI communications capability and this allows both instruments and equipment to talk to each

An Introduction

chased, or are thinking about purchasing an Amiga, then you will no doubt have many questions. In this four part series we are going to look at the machine from a beginner's viewpoint. We will try to give you a glimpse of what the Amiga can do and try to provide answers to some of those questions that you might already have been asking.

What makes the Amiga so special? Well, for a start it uses a 16 bit microprocessor called the Motorola 68000. This firstly ensures that the machine is fast and secondly enables much more memory to be addressed than was possible with older 8 bit machines (such as those which used the Z80 or 6502 microprocessors). This combination of speed and memory, coupled with some specialist custom chips, enables the Amiga to provide video display resolutions as high as 640 x 400, to produce pictures containing up to 4096 colours and to provide a graphics environment fast enough to

support animation. The Amiga's graphics facilities are superb and this has enabled a WIMP (Window, Icon, Mouse, Pull down menu) interface to be implemented. This means that you,

AMIGA A500



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other using a standardized digital format. Synthesizers, sequencers, digital delay units, electronic drummers etc., can thus all be controlled by a central computer. You may not be, nor want to be, a musician but the relevant point is this — the use of the MIDI protocol is now spreading into 'less musical' areas such as the control of 'Hi-Fi' systems etc., and there is little doubt that its use will continue to spread into many other areas which involve electronic equipment control.

"As I am writing this article my Amiga is reading the text from my wordprocessor, is compiling and linking a program that I have just edited and is also printing some documentation that I was working on earlier today."

If all this were not enough the Amiga is 'multi-tasking' — it can run many programs at the same time. As I am writing this article my Amiga is reading the text from my wordprocessor, is compiling and linking a program that I have just edited and is also printing some documentation that I was working on earlier today. Computers which perform such magic

have been around for quite a few years . . . What in fact makes the Amiga so very special is that these facilities are now available at a price that is affordable.

We have already mentioned that Amiga's 'User Interface' so let us fill in some details for you. It is called **Intuition** and its main philosophy is that a user's interaction with the Amiga should be simple, enjoyable and consistent (in a word — intuitive). Intuition provides a wealth of tools that enable programmers to ensure that this consistency is achieved. By adhering to some fairly simple and very consistent conventions the programmer can take advantage of multi-window facilities, can use various types of 'gadgets' (Intuition's name for icons) and can use many other Intuition objects to both simplify and standardize their programming tasks.

Programs can open a 'virtual terminal', an area from which they can receive and send information. As far as the program is concerned its virtual terminal covers the entire screen and on the outside is just the user with a mouse, keyboard and other input devices. The user sees this virtual terminal as a 'window' which may be moved, resized, or even hidden from view completely. All of these operations are dealt with by Intuition, often without the applications program even needing to know. What in fact happens is that Intuition continually listens to the stream of information arriving from all input devices — the mouse, the keyboard, joysticks, serial

port etc., it looks at this information, uses what it can and then passes on the rest to any interested parties, i.e. any programs which are running.

Programs can be selective about what type of events they wish to be informed about and Intuition is very flexible in this respect. If, for instance, a program wishes to know whenever a disk is inserted or removed from a drive it 'asks' Intuition to send it a message whenever such an event occurs. If the same program doesn't need to worry when a user resizes a window then it just does not ask for those types of messages to be sent to it.

Your first contact with Intuition, the mouse, gadgets and pull down menus etc., is quite likely to be the **WorkBench**. This program is found on the Amiga's main system disk and provides icon/mouse driven facilities that enable you to perform most common computer 'house-keeping' jobs. You can format disks, copy disks, edit icons, set up display and printer parameters and perform a host of other routine operations.

When you first switch on the Amiga you are prompted to insert the WorkBench disk. You can, in fact, any bootable disk but if you do indeed insert your WorkBench disk then, after a short delay as the program loads, you will see a display containing a WorkBench 'disk icon' (and possibly a RAM disk icon as well). The disk icon is easily recognized because it looks like a floppy disk. You will also see the 'pointer', an arrow which is moved

THE AMIGA An Introduction

continued from page 61

around the screen by moving the mouse around on any convenient flat surface. Move the pointer to the WorkBench icon and click the left mouse button twice (this is called 'double clicking') — a window opens and more icons appear. Some of these icons will look like filing cabinet drawers, they are icon equivalents of disk directories holding other programs or data files. If as an example you now 'double click' on the drawer called 'System' a second window with more icons appear. Two of these are labelled respectively 'Format' and 'DiskCopy' and are system utility programs which enables you to initialize disks and create back-up copies of your program and data disks — the programs are activated by 'double clicking' their respective icons.

"Use the mouse to resize and move the window to a clear area of the screen then double click on the clock again."

If you want a simple example of the Amiga multi-tasking then double click on the 'clock' icon — the system clock appears in its own window. Use the mouse to resize and move the window to a clear area of the screen then double click on the clock again. A second clock will appear. Repeat the process a third and a fourth time and you will have four clocks on display. At this point in time you actually have four copies of the 'clock' program running simultaneously under the multi-tasking operating system.

Another icon that appears in the WorkBench is 'Preferences'. This is the program that allows you to customize the colours of your display, set the date, set up your serial ports, text width, adjust mouse sensitivity, even redesign the pointer that the WorkBench uses. We should mention in passing that the preferences display will contain, amongst other things, a box labelled CLI. By selecting ON or OFF you can choose whether you want a Command Line Interface icon to appear in the WorkBench window. If you choose not to have the CLI enabled you will NOT be able to open a CLI window from the WorkBench.

"You actually have four copies of the 'clock' program running simultaneously under the multi-tasking operating system."

What is a Command Line Interface? It is a virtual terminal, a window, which provides a pathway directly onto AmigaDos, the Amiga's operating system. As such it is a 'command driven interface' of the type that operating systems such as CP/M and MSDOS use — you type commands at the keyboard and the computer responds. If you have been brought up with computers that expect you to talk in this sort of fashion . . .

A> PIP A:TEST.Bak=B:Test2.doc[v]
then you will be quite at home using the CLI approach as well as the icon based interface. Joking apart, CLI commands are not that difficult to learn about and most people find that they do need to use a CLI window from time to time. Your machine may have been shipped with the CLI facility turned off and, if this is the case, you should turn it on — because next month we will need it. (To do this you should enable the CLI by selecting the ON option, then save this new version of preferences by selecting the SAVE option.) It should be apparent from the above discussion that the 'WorkBench' thus protects the beginner from having to learn lots of command formats by providing an icon based interface for the common computer 'house-keeping' jobs a user might need to perform.

Before we leave you for this month there is one last topic that you should be introduced to — that of the IFF file. IFF stands for 'Interchange File Format'. It is a file specification devised by Electronic Arts and adopted by Commodore that enables programs to store data files of text, graphics, animation data, music etc., in a standardized way — which makes it easy for other programs to make use of the data. The IFF format has become widely adopted in the Amiga community and because of this it means that much of your data will be portable. Here's a typical example . . . You could use MaxiPlan (A 'Lotus 123' type graphics/spreadsheet package) to develop a spreadsheet application which enables you to display the spreadsheet data as a series of histogram or pie chart diagrams. You can save those histogram or pie chart diagrams as IFF format picture files, read them into DeluxePaint for some additional editing, then finally incorporate the edited graphs into the report that you are preparing with say the 'VizaWrite' word processor.

Similar flexibility is achieved in other IFF areas with music files, sound sample data etc., all becoming essentially 'application program independent'. Such flexibility is obviously not obtained easily and occasionally snags do occur. IFF file formats and the associated programming can become complex thus the subject of IFF programming is not really one to be recommended for the beginner.

S.M.

Next month Susan Maxwell takes a first look at AmigaDos, the Amiga's operating system.



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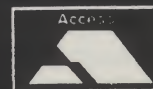
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TO THE RESCUE!!

The Floppy Disk Filing System

In this, the first of a series, Betty Clay, one of the leading U.S. Amiga experts, comments on recovering corrupted data.

Disk drives are usually just black boxes to a most of us. We put in a disk, read from it, write to it, and toss it away if it is bad. If a corrupted disk contains data that is extremely important to us, however, we must know a great deal about the workings of the disk drive in order to recover that vital data.

THE EASY WAYS

Commodore has supplied us with method of disk recovery: the program called DiskDoctor. Requesters frequently pop up telling us to use DiskDoctor to repair a disk. Occasionally, it even works. But there are several serious problems with DiskDoctor. It writes directly to the disk it is trying to recover. Should it fail, there are no more chances. It does not preserve the structure of the disk, so all organisation is gone. The files are all placed in one big directory. Even worse, it will automatically delete any file with which it has trouble. All in all, I cannot recommend that anyone use it except as a last resort.

Dave Haynie, who works for Commodore, has given us a second program that will recover data automatically — DiskSalv. The latest release of DiskSalv will work on the Fast File System as well as on the original; it will work on hard disks as well as on floppies. DiskSalv preserves directory structure. It writes only on preformatted disks in a different drive from the corrupted one. It is a far better method of recovery, and is my first choice for recovering lost data. This program is available from most good public

domain libraries, such as the ICPUG Library.

There are other occasions, however, on which one must dig into the file system itself and do the recovery by hand. This series of articles is directed to that method. The new Fast File System has now been released, but it will not apply to the floppy disk system. Support for FFS on floppies will not be available until the release of 1.4, and it is dangerous to the health of your disks to be using it under 1.3. These articles apply to the floppy disks as they have been organized from the beginning of the Amiga. Most of the information will be valid with either system. Only the data blocks are changed for the FastFileSystem, and all others will remain exactly as described here.

LAYOUT OF DISKETTES IN GENERAL

When you give your Amiga the command to "FORMAT DRIVE DFN: NAME "XXXX", the drive begins to turn and you are given a running report about the progress of the format. The drive is busily marking off the surfaces of the diskette into usable sections. Everyone is familiar with the way a phonograph record is marked, with grooves for the needle. Those grooves make a spiral from the edge of the record to the center. A computer diskette is marked in a similar manner, except that there are magnetic markings instead of grooves, and the markings form concentric circles rather than a continuous spiral. Each of these concentric circles is called a "track".

When the Amiga formats a disk, it makes eighty of these tracks, numbered zero through seventy-nine. Track 0 is at the outer edge, and track 79 is nearest the spindle. The Amiga has two write-heads, one on each side of the disk, and they make 80 tracks on each side, so there are 160 tracks in all. The tracks on each side of the disk are numbered identically, and the upper and lower tracks with matching numbers combine to form a cylinder.

Each track on the disk is further divided into 512-byte regions called sectors. There are, on the Amiga floppies, exactly eleven sectors on each track, or twenty-two per cylinder. On many computers, each sector is physically separate from the others, with identifying information you never see (called the header), a gap, then the data, then another gap before the header of the next sector begins. The Amiga does it very differently. An entire track is read or written at one time. To make this faster, all eleven sectors are written continuously, with one long gap of nulls at the end. The sectors then are logical divisions rather than physical ones. The drive heads start to read or to write as soon as they find the correct track, not waiting for a particular sector to appear. Both of these methods were chosen to make the drives fast, but problems can arise because of them sometimes. If your disk has a bad spot on it, that bad spot may fall into the long gap at the time of format or of first writing. As you write and replace data on the track, the data is written to a different spot on the track each time, and eventually the drive will write to that bad spot. Perhaps you will

continued on page 70

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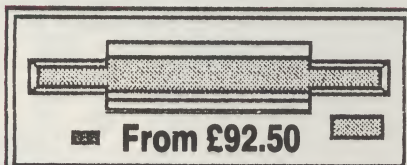
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Whether you are a regular Sandy Lyle or think that a hole-in-one is something to do with a flat tyre, Leaderboard Birdie just has to be in your collection. Here's a game that has swept up the plaudits on whatever micro it has appeared — and I'm here to tell you that it is even better on the Amiga!

Plainly put, Leaderboard Birdie is a golf simulation. Now that may not sound like the type of game to set your blood on fire but just wait until you start to play it. I guarantee that within ten minutes of your first round, you will be hooked. For while Leaderboard is disarmingly simple to get into, it is also fiendishly challenging.

Leaderboard has been out for ages — there is even a budget 64 version but this is another step up by including the original Leaderboard with Leaderboard Tournament, another few courses.

The game offers three levels of play — novice, amateur and professional. At the novice level, there is no wind blowing and no matter how badly you time your shots, you will never, ever hook or slice. As an amateur, you will have to watch the timing of your shots but the wind still will not blow. At professional level, you will get no help at all.

LEADERBOARD



Leaderboard can be played by up to 4 players (each depicted in a differently coloured outfit) and there are 8 different courses to choose from (four on each of the two disks). There are no computer-controlled opponents — it is just you (and any other humans) and your mouse against the course.

By now, I expect you will know that a three-dimensional view occupies the main portion of the screen and is taken from just behind where your ball currently lies looking towards the green (or hole, if on the green). A golfer (the current player) stands addressing the ball (club in hand, ready to swing), patiently awaiting your command. And that's one of the joys of this game — there is no time pressure whatsoever. You can take as long as you like over a shot, subject only to



BIRDIE

US Gold

Graphics: 8
Sound: 8
Playability: 10
Value: 10
Price: £24.99

the tolerance of any other humans playing with you, of course!

A small cross-hair can be moved to line up the aim of your shot by simply dragging it around with the left mouse button depressed. Club selection, an important part of successful play, is achieved by clicking on the up or down segments of an icon displayed in a panel to the right of the main picture. Type and strength of shot, two other crucial elements, are controlled by a simple sequence using the right mouse button whilst keeping an eye on another icon, a moving indicator. The sequence is easy enough but as with most sports, timing is all — and that is one of the factors that makes this game so much fun to play.

As you take the actions required to hit the ball, there is a swish as golfer swings and a satisfying thwack as he connects — he never misses! According to how you've handled your button pressing, the ball will soar away into the distance and land on the fairway or the green (you hope!). Bunkers, rough, lakes and trees are some of the less pleasant places for your ball to end up. A vicious slice, hook or failure to allow for a strong wind might even take the ball right off the screen and possibly out of bounds.

After a player has made his shot, the screen is immediately updated to show the new position. Although there can be up to three other players playing, only the current player's ball ever appears on screen at any one time. Once on the green, the display is slightly different. You can forget about any wind (there is none) and all risks of hooking and slicing (you can't) but you now have to contend with the slope of the green, indicated by a shadow falling from a small post. The most pleasurable sound is the ball dropping with a clatter into the hole!

Once each player has completed the hole, a scorecard appears showing the scores to date, with birdies, pars and bogeys encouragingly (or depressingly) shown in distinctive colours. Then its on to the next tee

— or abandoning the round in disgust by pressing an exit key.

Clicking on a further icon in the panel allows you to have a birds-eye view of the entire hole, complete with the current position of your ball. The rest of the panel is given over to such information as the number and part of the hole, the player's scores for that hole, direction and force of any wind blowing, and the distance remaining between the current player's ball and the green.

Leaderboard Birdie is supplied on two disks (two separate, self-contained games, really). There's no maddening disk swapping or accessing to worry about — the entire game is all loaded into memory at the start. It comes handsomely boxed and complete with a set of score cards, a hole guide and a club distance chart.

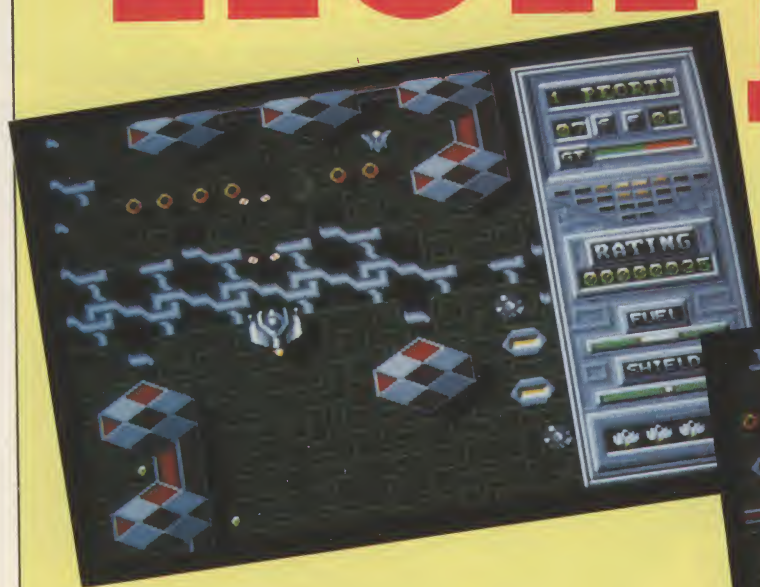
The still graphics are stylised but certainly effective enough and the immense variety of holes (144) and backgrounds (I do believe I saw a smoking volcano on one course — I bet they don't have many members at that club!) make the game visually enjoyable.

Leaderboard Birdie is a game that is built to last and will give you undiluted pleasure for many, many months to come. So it doesn't matter what the weather's like outside — as long as you've got an Amiga and Leaderboard Birdie, you can give Faldo, Langer and Lyle a run for their money any day. And don't worry if you don't know one end of a three wood from the other when you start — by the time you get to the ninth tee, you will be racking up the pars quicker than I can say Severiano Ballesteros.

B.C.

Hellbent

Novagen



Novagen have built a solid reputation for themselves over the years, one of quality, originality and innovation. Paul Woakes looks set to keep up the tradition with the "imminent" release of Pamocles, but in the meantime they have made a very uncharacteristic move in releasing Hellbent.

For those who like a plot to lie in with the game, try this for size: "In 3530, Stellarfleet Captain Drak Hellbent achieved annihilation of Fraollian usurpers throughtout Aldonicha". In other words, Hellbent is a Goldrunner clone, but that wouldn't sound too good on the packaging, would it?

The screen layout is identical to just about every vertically scrolling shoot 'em up ever released on the Amiga. A plain bas-relief panel occupies the right-most third, housing gauges for score, lives and the like. To the left, the current artificial landscape scrolls up and down with the player's ship.

To get from one level to the next, a set amount of ground installations need to be blown up. Flying at low altitude across the planet surface, your first test of manual dexterity involves finding a way through the lofty structures that confront you at every turn. Add to that the irritation of the continually swarming aliens and you've got a seriously difficult game. As if that were not bad enough, the time it takes for the ship to flip into reverse makes fast precise moves an impossibility.

Annoying delays crop up between lives and games with such basic effects as multi-coloured

boxes and blips that would disgrace a 48k Spectrum! At least the original Goldrunner had smooth scrolling, Hellbent cannot even manage that. Apart from the absence of even an ounce of originality, Hellbent fails on its fiddly, frustrating gameplay. Another thing that gets my goat is this habit of blocking out a large portion of the screen with a score panel. Wasting space that could be used for the game itself. Its hardly as if the Amiga couldn't handle scrolling the whole screen.

Obviously it would be impossible for Novagen to survive on earnings from Mr Woakes' games alone, but why such a dated and unplayable game as this was chosen is beyond me. I for one am not prepared to accept clapped out clones of ageing games that were unoriginal in the first place.

Graphics:	4
Sound:	2
Playability:	3
Value:	3
Price:	£19.95

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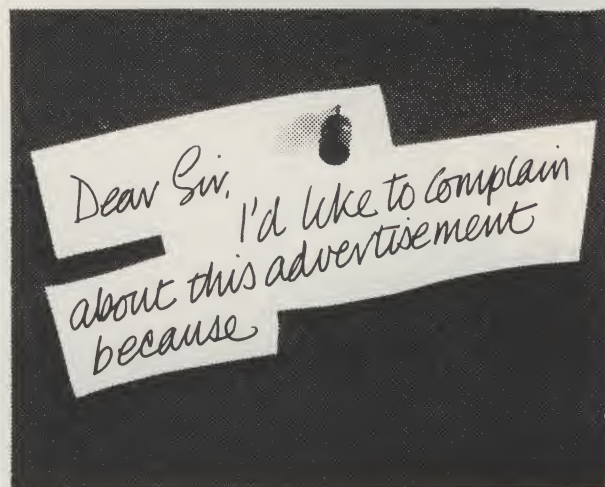
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TO THE RESCUE!!

continued from page 64

receive a message that the disk is corrupt, and can save your data to a different disk. Perhaps you will be less fortunate, and will learn at the next session that your disk is corrupt and that you have lost an entire track of data. These problems are serious, and corrective measures are being planned for 1.4. Until then, we must work around them. Fortunately, they do not occur often.

USING A DISK EDITOR

When a disk is corrupt, and if DiskSalv was unsuccessful in saving your data, a track and sector editor is necessary. Several good ones are available on public domain and shareware disks. The ICPUG library has Sectorama, DiskX, and Block-

Buster, to my knowledge. The illustrations will show you what Sectorama will display when you look at the root directory of a release version of Workbench 1.3. In later installments, you will see screens from the others. Each of these editors has strengths and weaknesses, and those will also be discussed.

To use Sectorama, you must use the CLI. Assuming that a copy of the sick disk is in drive 1, that Sectorama is spelled in full on your disk and that it is in your current path, you would type:

RUN SECTORAMA DF1:

This will load Sectorama, and Sectorama will then load the root directory block from the disk in drive 1. The root directory is the main directory on the disk, and is always block 880. (On a hard disk, it will be the sector nearest the center of the partition).

All of those numbers can be terribly confusing, but they follow a very definite pattern. They are displayed on the screen in groups of eight digits, each group representing one item of data. The first six items are information for the file system itself, the type

of block, the header key and length of file (always zero for a root directory block), the size of the hashtable (more about this in the next article), another unused item, and the checksum. The next seventy-two items give the number of the sector in which a file or another directory begins. Some may be empty, shown by zeros; others have a sector number, given in hexadecimal format. The remainder of the block is also for system information. The next thing after the hashtable is the list of bitmap pages (a pointer to the block that keeps a record of used and unused sectors). Three slots hold the numbers that translate to the data and time the disk was last altered. Twelve are allocated for the disk name. Three more hold the data the disk was created. The last four slots on a root directory block will be empty except for the very last, which has a number indicating the secondary type of the block.

Next time, we will look at a directory block in detail, and discuss ways of recovering from an unreadable directory, or of recovering a disk when a single file has gone bad.

B.C.

★ Program

Submission

Procedure ★

DO NOT submit any program or routine that you do not either own or have property authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.

Do not forget to make it clear exactly which computer/s your program or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Number all pages.

Never use staples. Use paperclips if necessary.

If you are saving your program to tape then save it AT LEAST twice on each side.

When you save a program on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the program. Label tape or disk with your name and the name or title of the program.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

If you can, use CHR\$(x) type commands instead of those hard to read graphic symbols.

If necessary renumber your program on completion a many readers use auto number utilities to ease typing in.

Try to keep instructions within the program itself at a sensible level. You can expand on them within the accompany text if necessary.

TEST your programs before submitting them or even better get a friend to test them for you.

If a program contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your program contains more than five lines of data.

Please allow at least 8 weeks for acknowledgement as all programs have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your program to be returned.



Please allow 28 days for delivery

Customary CLI — Program

In AUI January, we published the Susan Maxwell article on customising CLI commands. Gremlins set to it and the program was omitted. Our apologies, here it is.

```

* =====
* Illustration Twin CLI Utility Program          Susan Maxwell (C) 1988
*
* INCLUDE - FILES
*
incdir    "atl:include/"          General pathname prefix
include   exec/strings.i
include   exec/exec_lib.i         Will use both EXEC and
include   libraries/dos_lib.i     DOS functions.. so must
include   libraries/dos.i         include header files.
include   misc/easystart.i        beats doing it the hard way
*
* EQUATES
*
NULL      equ    0
DELAY     equ    250              delay before closing sink window
DOS_VERSION equ    0              any DOS version
*
* STATIC - VARIABLES
*
file_handle  ac.i    0
_DOSBase     ac.i    0            DOS library pointer
error_flag   ac.b    0
command1     ac.b    'NEWCLI "CON:0/0/319/100/AMIGA USER INTERNATIONAL"',NULL
command2     ac.b    'NEWCLI "CON:320/0/319/100/GIVES YOU TWICE AS MUCH"',NULL
window       ac.b    'CON:0/100/640/100/**two*CLI*windows*coming*up*',NULL
text_p       ac.b    'Searching for command RUN and NEWCLI....',LF,NULL
text_length  equ    *-text_p      work out string length
error_text_p ac.b    'out cannot find them ! unfortunately the',LF
              ac.b    'program cannot work unless both of these',LF

```

continued on page 79

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Lombard RAC Rally

Mandarin Software

Graphics: 6
Sound: 3
Playability: 5
Value: 4
Price: £24.95

Mandarin's rally simulation gives a new meaning to the phrase "back seat driver". Instead of the usual driver's eye view or a Pole Position format, Lombard RAC Rally is all seen from the back seat of your Sierra RS Cosworth.

"Each leg is split into three stages, so it's going to take a lot of driving just to get into the race."

To prove your worth for the rally you need to finish in a top three position by driving all five legs in any order. Each leg is split into three stages, so it's going to take a lot of driving just to get into the race. The absence of an option to save a game position makes the qualification essential each time you reload.

A raspy digitised voice counts you down at the start of the race. As you accelerate and shift into second gear, the driver's hand leaves the wheel and moves to the gearstick. The animation extends to the steering wheel and the eight separately animated dials. Most of the time your view through the windscreen is limited to a few narrow horizontal bars representing the road. This often makes it impossible to tell which way the road ahead is veering. The only time you get a proper look at the road is on the descent of a hill. I would have thought the co-driver's course map would compensate, giving advance warning of bends, but 90% of the time it bears absolutely no relevance at all to the route to drive.

When you do realise you are approaching a bend you can make an attempt at gaining a good line through it. I say make an attempt, because the Cosworth's supposedly power-assisted steering handles more like a clapped out tractor! It beats me why programmers of driving simulations so rarely include a mouse control mode which can give infinitely more precise steering.

Head-ons with roadside scenery take their toll on the car's performance. At any time you can enter the workshop screen where repairs can be

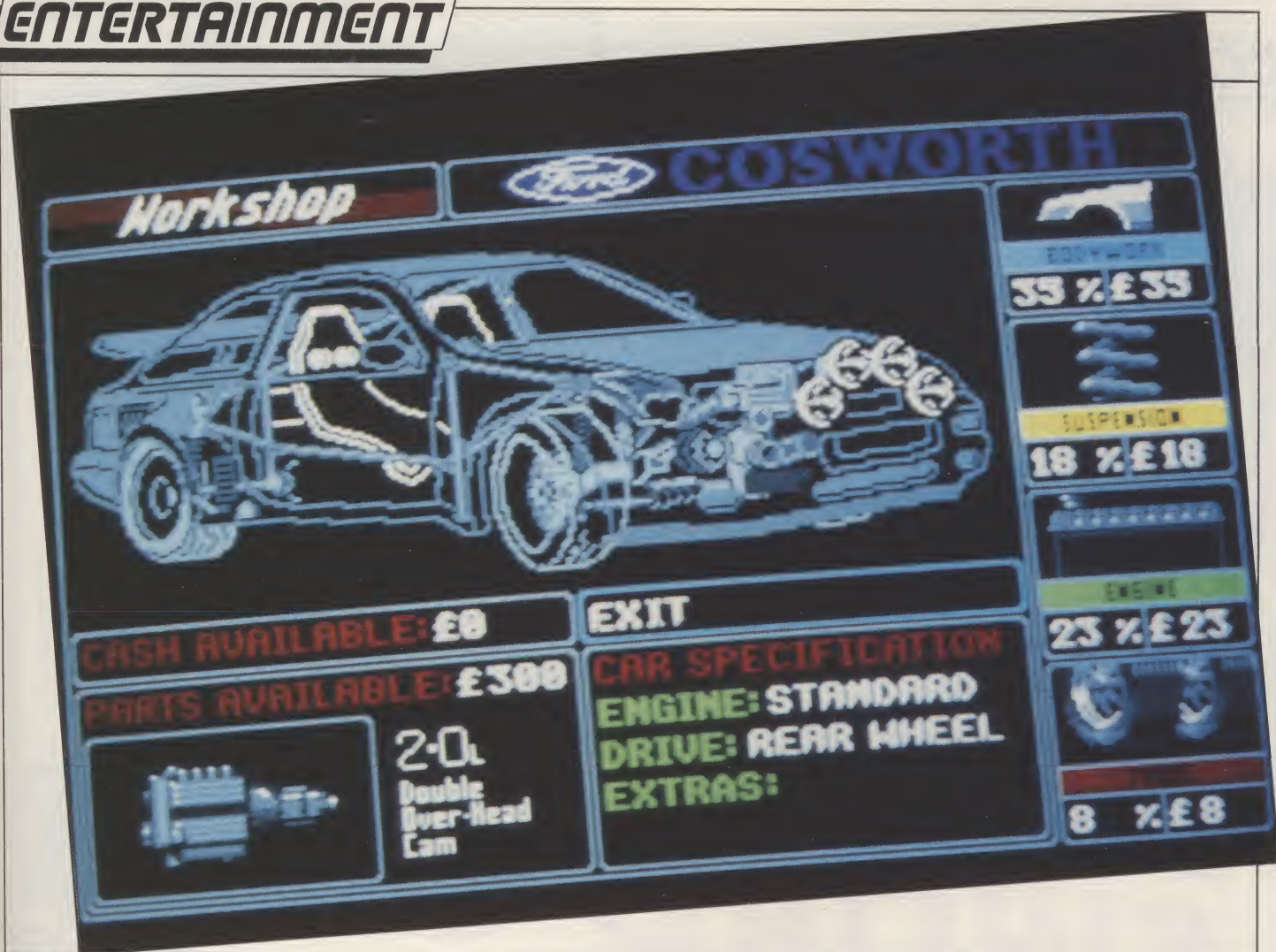


made. A CAD-like image of the car is used to show wear and tear on the different components, but to rectify the faults you need the money for the parts. This is where the TV interview comes in. You are asked a string of questions based on the rally which are answered correctly for cash prizes.

RAC Rally's design has been well thought out, with original features that should have made a great game. It's the programming that lets it down. The slow pace leads to a jerky 3D update and unresponsive controls. Twenty five quid is way over the top for what would have made a pleasing budget release.

T.H.





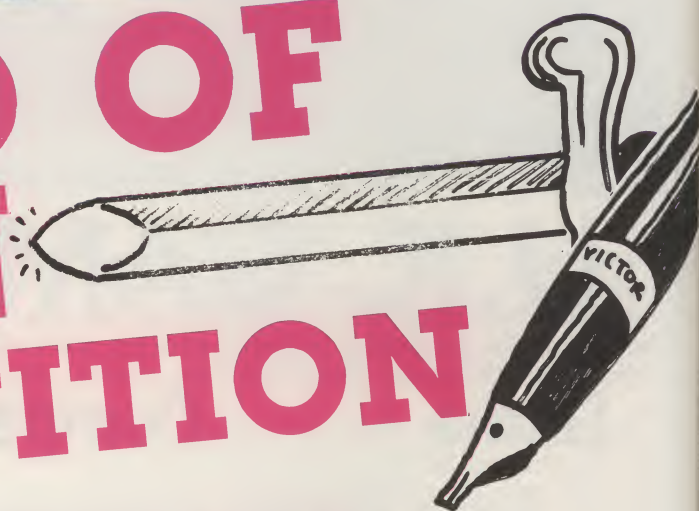
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5. Captain Blood	Infogrammes	(-)	£24.95
6. Starglider II	Rainbird	(4)	£24.95
7. Thunderblade	U.S. Gold	(-)	£24.95
8. Operation Wolf	Ocean	(-)	£24.95
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COMPETITION



SWORD OF SODAN COMPETITION



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In October 1988, AUI published the exclusive worldwide review of *Sword of Sodan*. Discovery Software's larger-than-life hack'em and slash'em arcade action game. Back then, we wrote... 'Sword of Sodan will not be relegated to the back of the disk for a long time to comp (if ever!)'. Discovery tells us that sales are

booming, and they have graciously donated 10 copies from their previous stock for lucky AUI readers.

All you have to do is to answer the following questions.

1. (True or False) You can choose to fight as a male or female warrior during the game play?
2. (True or False) The sprites stand almost $\frac{2}{3}$ ds of the size of the screen?

3. Which is NOT one of the levels of the game. City surrounded by graveyard; castle corridors; a forest; Rick Ross' Office.

Winners will be drawn from the first ten, all-correct postcards received by April 5. Answers on a postcard please to:

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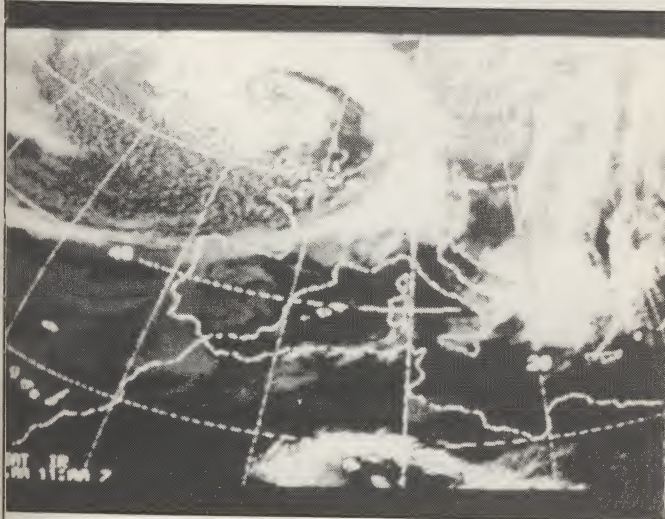
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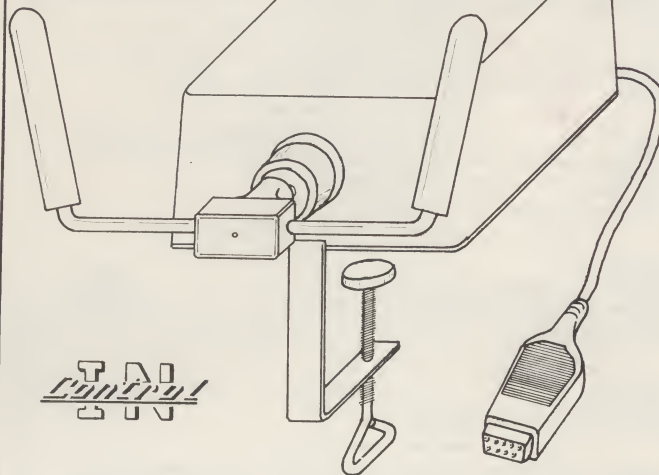
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continued from page 72

```

        dc.b 'commands are in the ASSIGNED C: DIRECTORY',NULL
err_length equ *-error_text_p
DOS_name_p  DOSNAME      macro creates library name
NEWCLI      dc.b 'C:NEWCLI',NULL
RUN          dc.b 'C:RUN',NULL

```

*

* ENTRY - POINT - FROM - START - UP - CODE

```

_main      dsr      OPEN_DOS:      Open the DOS library
           tst.b    error_flag     Check that it was O.K.
           bne      EXIT:

```

* DOS open O.K. so now we open a sink window *

```

move.l     fwindow,d1      command string
move.l     fMODE_NEWFILE,a2
CALLDOS    Open
tst.l      a0              check that it worked !
beq        EXIT1:
move.l     a0,file_handle  save file handle

```

* now we can write our sign on message *

```

move.l     a0,a1           Move it to a1 for write()
move.l     ftext_p,a2      address of text in a2
move.l     ftext_length,a3 length for write() in a3
CALLDOS    Write           don't check..this MUST work

```

* 'sign-on' completed... so check for RUN and NEWCLI command *

```

move.l     fNEWCLI,a1
move.l     fACCESS_READ,a2
CALLDOS    Lock
tst.l      a0

beq        COMMAND_ERROR:  no NEWCLI in C: directory
CALLDOS    Unlock
move.l     fRUN,a1
move.l     fACCESS_READ,a2
CALLDOS    Lock
tst.l      a0
beq        COMMAND_ERROR:  no RUN in C: directory
CALLDOS    Unlock

```

* now we can actually carry out the commands *

```

move.l     fcommand1,a1    perform 1st 'command'
dsr        COMMAND:
tst.b      error_flag
bne        COMMAND_ERROR:
move.l     fcommand2,a1    perform 2nd 'command'
dsr        COMMAND:
tst.b      error_flag
beq        EXIT:

```

```

COMMAND_ERROR: move.l file_handle,a1
               move.l ferror_text_p,a2
               move.l ferror_length,a3
               CALLDOS write

```

cont. on next page

USER PORT

continued from page 79

```

EXIT:      move.l    edelay,a1
           CALLDOS   delay
           move.l    file_handle,a1    Closing sink window
           CALLDOS   close

           * all done so we can say goodbye *

EXIT1:     csr      CLOSE_DOS:        close library before we leave

EXIT2:     move.b    error_flag,a0
           rts                               quit

*
=====
OPEN_DOS:  move.l    _DOS_name_p,a1
           moveq     _DOS_VERSION,a0
           CALLEXEC  OpenLibrary        macro in exec_lib.1 file
           tst.l     a0
           beq       OPEN_DOS_1:
           move.l    a0,_DOSBase        save library pointer
           rts

OPEN_DOS_1: move.b    z1,error_flag     set = we couldn't open DOS
           rts

CLOSE_DOS: move.l    _DOSBase,a1        library pointer needed in
           CALLEXEC  CloseLibrary      a1 in order to close library
           rts

COMMAND:   move.l    NULL,a2            no input handle needed
           move.l    file_handle,a3     set output handle
           CALLDOS   Execute            execute command and
           cmpl.l    E-1,a0             check that it's O.K.
           beq       COMMAND1:
           move.b    z1,error_flag     set if command failed

COMMAND1:  rts

* =====

```

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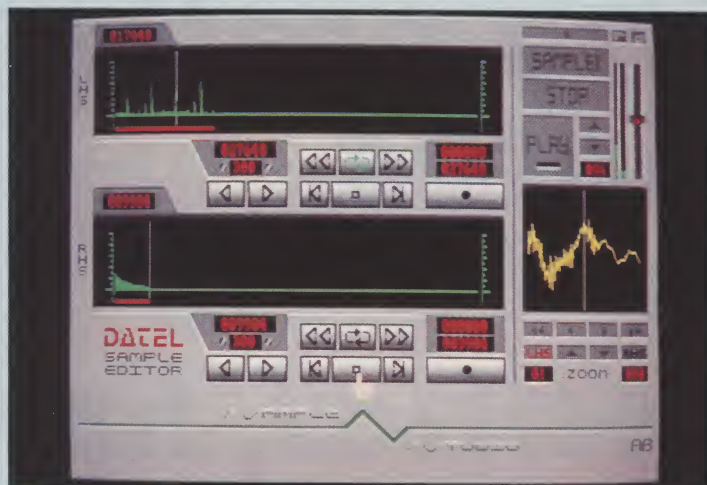
says Tony (whisper it in my ear, Danielle) Horgan. He's Heard It On The Grapevine . . .

Ocean's conversion of *Operation Wolf* shows just how well the Amiga can emulate the latest coin-op (see the review in this issue). It looks as if their next big licence, *Dragon Ninja* will continue the trend.

Without introducing any amazing new concepts, *Dragon Ninja* manages to be one of the best arcade machines of the moment. It's a frantic two player beat 'em up played across a number of horizontally scrolling scenes. Unlike *Double Dragon*, the various fighting moves are not so much of the vicious street fighting style, but more spectacular acrobatic karate kicks and punches. Your foes are pretty standard ninjas, stocking-clad girls and the essential fat bald men. The sprites of the Amiga version come amazingly close to the original, and if the rest of the game follows suit you can expect something hot.

continued on page 84

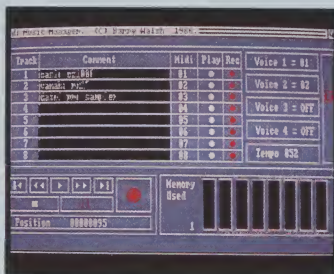
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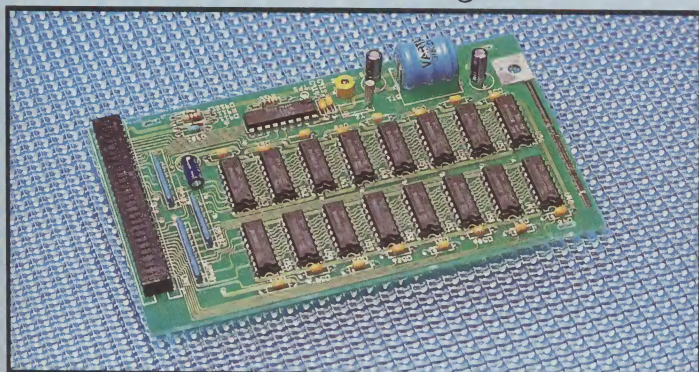


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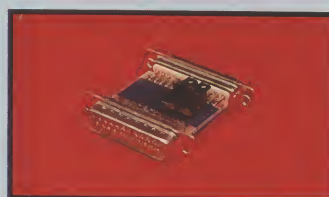


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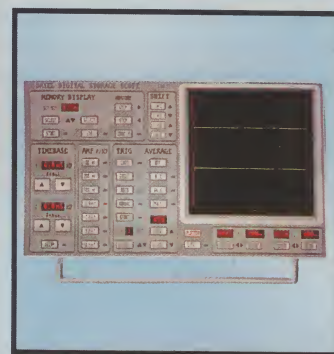
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Heard it On the Grapevine ..

continued from page 81

In the meantime, Titus just won't let go of their 3D routines; Crazy Cars I and II, Fire and Forget, Offshore Warrior, and now Galactic Conqueror. Afterburner in space is the best way to describe it. You take the role of a fearless pilot in a struggle for power in your home galaxy. A hint of strategy comes into it as you plot your way across the stars, but don't disengage your trigger finger if you want to survive.

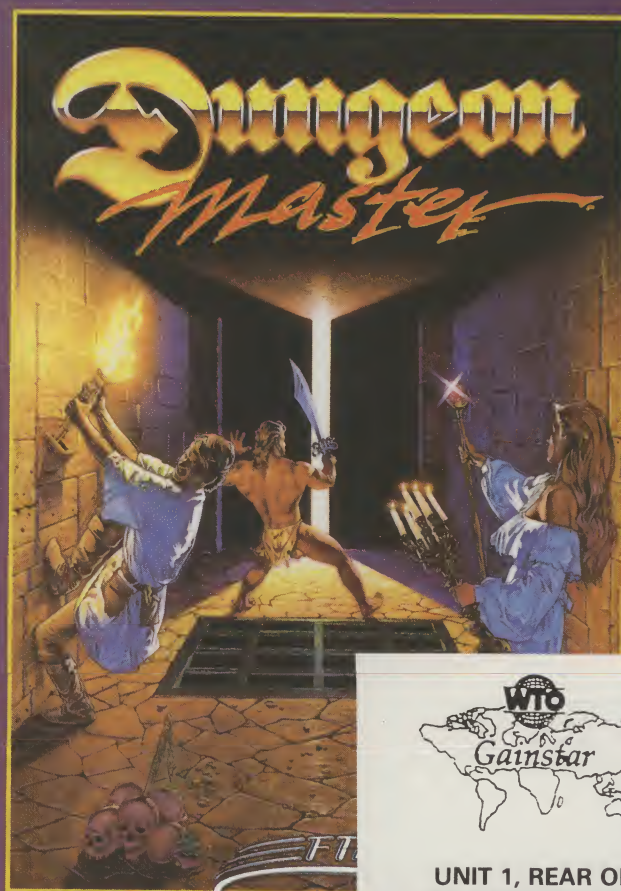
Remember Chuckie Egg? Yes, that ancient Donkey Kong variant that ranks along side such early 8-bit wonders as Manic Miner, Jet Pac and Ant Attack has been converted to the Amiga! In the process it's evolved farmyard backdrops that have the unfortunate effect of confusing the moving graphics. I always saw the chubby main character as a farmer, but now you get to play an egg with legs, but don't worry, at least the sound effects are identical to the spectrum original — and if you're lucky you'll get salmonella before you play the game.

In total contrast, Mirrorsoft have completed their military flight simulator, Falcon, just too late for a review this issue. If you though Interceptor was a bit too easy (you did?), Falcon should be right up your street. Its range of skill levels accommodate absolute beginners through to ace pilots. Running at a faster pace than Interceptor it ventures deeper into the accurate simulation of the plane's controls with no-end of gadgets to play around with. Better look out for next month's mag for the full verdict.

US Gold's conversion of a little known coin-op going by the name of The Deep is almost upon us. You are at the Controls of a nippy little vessel armed with an unlimited supply of depth charges. These are essential for defending yourself against the inhabitants' of a mutant ocean. Catch a pod from a hovering chopper and you can voyage to the bottom of the sea to pick up a token, taking you on to more deadly waters.



Mindscope have some promising stuff in the pipeline. Aussie Games is a collection of six chuckle-inducing pastimes from Down Under: the beef bottle shoot, dry-river boat race, belly-whack, competition, boomerang toss, beach football and marlin fishing, all of which, we are informed, will ensure a rip-roaring bonza time. Bet you can't wait!



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John Walker, in the second part of his series on Desk Top Publishing considers presentation — how to make your publication professional.

Desktop publishing is often rubbished because many DTP publications look bad. What the rubbishers fail to realise is that much conventionally printed material is lousy, too. If you examine your average paperback you will find that small-sized type has been used, in order to cram as many words as possible on a page, with narrow margins. Go into any remainder bookshop and pick up the cheap reference books and you will see poor printing, badly reproduced letters and broken typefaces. Desktop publishing is making more people aware of design — of how you can achieve different effects by using different sorts of type.

You can make a rough division of type into two kinds. There is serif, in which the letters have brackets at their ends. And there is sans serif, in which the letters are blunter.

The Amiga's Topaz and Ruby are serif fonts. Diamond and Opal are sans serif fonts, although the distinction is a rough one. Small-sized bit-mapped fonts are difficult to design and as a result are usually not very appealing.

Letters such as the serif-less "s" of Topaz or the peculiar capitals of Opal, which look like overblown lower-case letters, are downright ugly.

"Often the serif font is Times Roman (sometimes called Dutch on some systems). And the sans serif font is usually Helvetica (which is sometimes known as Swiss)."

There are other styles, such as Black letter — represented on the Amiga by Sapphire — which these days usually turns up in parish magazines, in wedding invitations or funeral notices. Black letter should always be used in upper and lower case letters, never in all capital letters. And there is the Cursive, or handwritten style, of the Amiga's Garnet, which can be used to give a personal look to letters or brief notes.

Serif and sans serif are the two most important divisions. Most laser printers are provided with an example of each. Often the serif font is Times Roman (sometimes called Dutch on some systems). And the sans serif font is usually Helvetica (which is some-

times known as Swiss). Each has an important part to play in making printed matter pleasing to the eye. Serif lettering is more formal. It is also easier to read. If you have a lot of text, then it is usually best set in a serif font.

Sans serif is more informal. You can set quantities of text in it, particularly if you want your document to have a modern feel. But it is more often used for display — to set headlines or brief introductions at the beginning of an article.

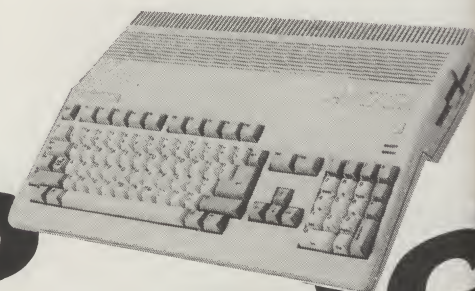
"You need to standardise the style and the size of type that you will use for your headlines and the main body of the text."

You can use bold or emphasised type for the headings, the normal type for the main text and the italic version for captions to graphics or to add emphasis to what you are trying to communicate. Don't let the difficulties of design put you off DTP. If you keep things simple, you can produce good-looking results. You will emerge from the experience with a greater respect for designers, realising for the first

time how much you have taken for granted in reading printed matter.

Posters are the simplest to produce, since they are set to the width of the page. Remember to keep the details as short and simple as possible. And use large-sized type so that it can be read easily at a distance.

Brochures can be printed on a single sheet which will then be folded in half to form a slim four-page publication. If



you are producing a magazine or newsletter you will need to take care when choosing the elements that will stay the same from one issue to another. You need to standardise the style and the size of type that you will use for your headlines and the main body of the text.

Books present even more decisions. Which style do you use for a chapter heading, for instance? Which size and what type is right for running headings on pages? Should an index be set in double or single columns? Do you use bold or italics to indicate references to pages with illustrations?

The simplest way to achieve good results is to copy the approach of a publication you admire. Don't tell anyone, but it is what a lot of professionals do. They constantly pinch each other's ideas.

The easiest way to achieve effective design use layout sheets which are marked out in grids that hold together the underlying pattern. DTP packages show the outlines of columns on the page. Most also allow you to put a non-printing grid over your page. Often, you can make the various elements of your design — headlines, text and graphics — snap to the lines on the grid so that

everything is aligned correctly across the page.

Using these guide-lines you can quickly work out an attractive layout. A page divided into three vertical columns such as this one, is probably the best way of handling an A4 sized page. It means that you have great flexibility in arranging your headlines, your text and your graphics.

Create a grid by dividing the page into three columns and six or seven equal horizontal sections and you have a wide choice of where to place headlines, illustrations and different articles.



narrow widths — you get a lot of ugly gaps between words.

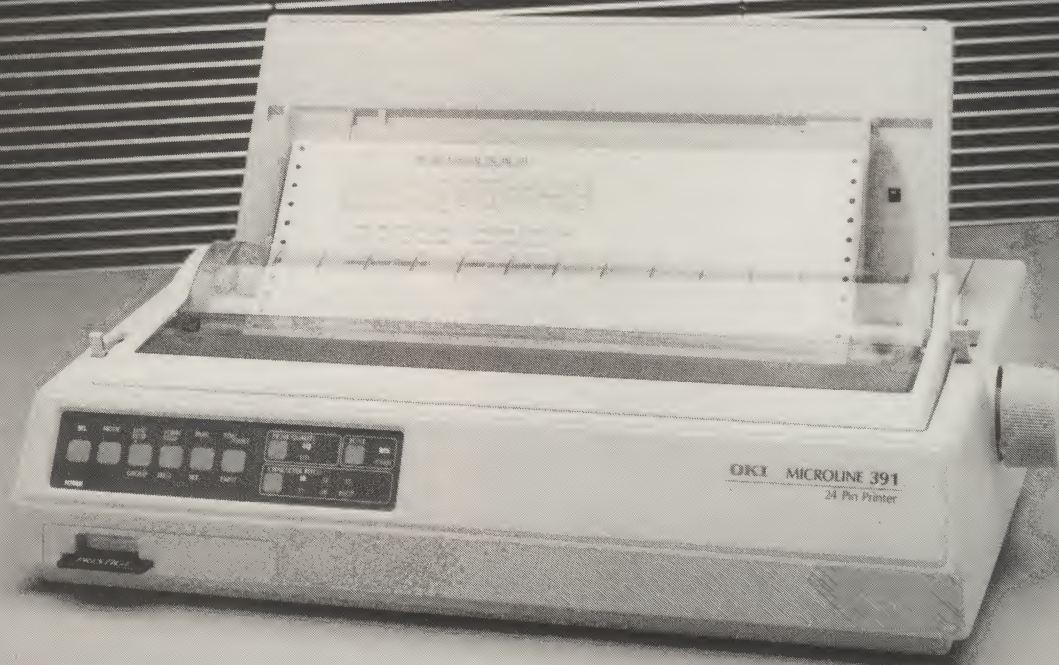
Producing larger sized publications is probably best left to professionals. Design becomes more complex on a larger scale. And most dot-matrix and even laser printers cannot handle sizes above A4.

J.W.

Next month, John Walker will explain Desk Top Printing.

If you have more than three columns, then the narrowness of the setting makes the words harder to read. Text does not justify well in

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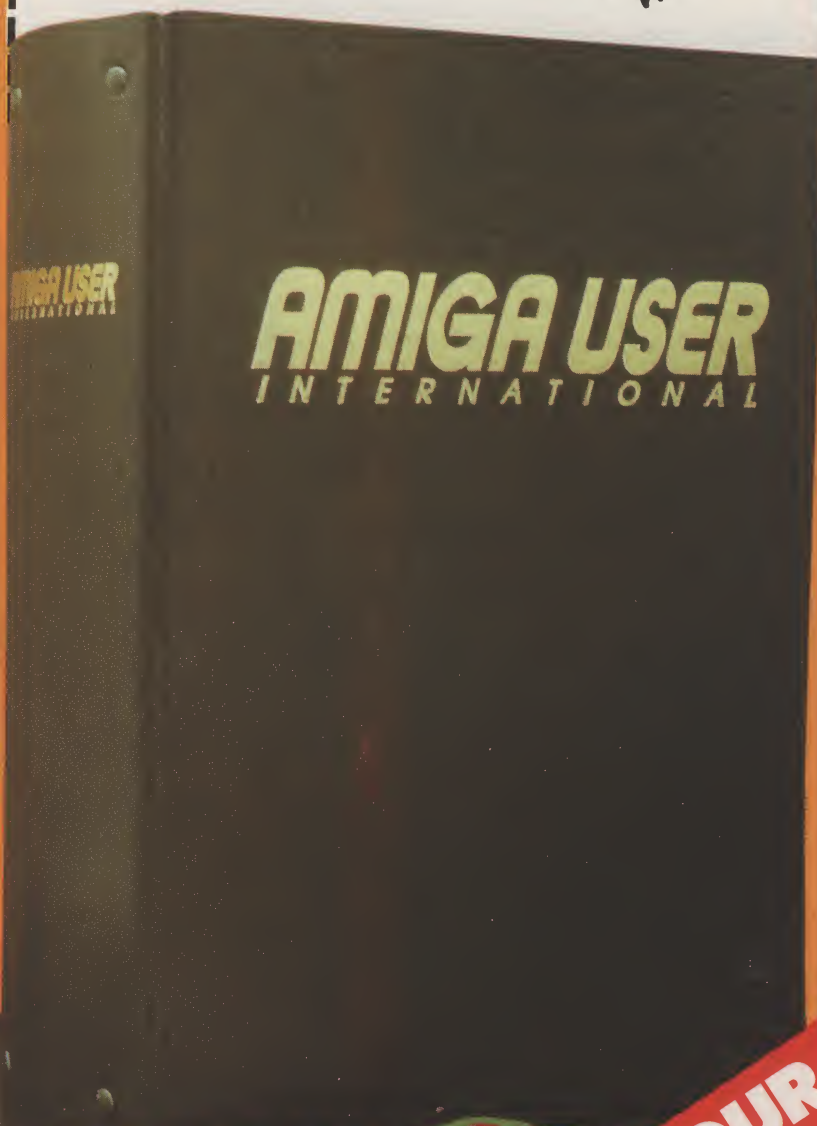
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BUROCARE'S 40MB HARD DISK DRIVE

'No more hunting around in dingy disk boxes', says Mike Nelson as he test drives 40MB hard.

A hard disk drive is an expensive luxury rather than an out and out necessity by most peoples' standards. Until you actually use one that is, then you realise just how convenient it really is. If you do any word processing or programming then a hard drive will greatly speed up your work with no more annoying waits for a directory to appear or programs to compile and link. The product concerned is supplied by Burocare but judging by the documentation is, I believe, imported from the good old US of A. The package comes complete with copious amounts of the ubiquitous bits of polystyrene and no apparent manual. The reason for this is that there is no manual as far as books and such like goes but merely

"It may well be considered unacceptable in a product costing around £600 not to have any form of literature."

two disks, one labelled manual and the other boot disk. All of the instructions on how to install your new drive and get it working are stored as text files on these disks and are designed to be printed out. Whilst this is relatively easy to do (if you have a printer) it may well be considered unacceptable in a product costing around £600 not to have any form of literature. It should not be presumed that all customers will



have access to a printer and can dump out over 100K of manual before they can sample the hardware. The files do suggest that proper manuals are being prepared but the availability of these is unknown at the time of writing.

The hardware consists of the drive unit which is reasonably bulky with a built-in power supply measuring about 17" x 7" x 3", an interface which plugs into the expansion port and appropriate cables. The whole product seems to be built from good quality materials but the cables on mine are a miserable length. The drive mains lead barely reaches the floor and its position is further limited by the lead to the SCSI interface. These kinds of problems went out with buying computers in kit form from dodgy mail order companies (no names mentioned).

Connection is fairly straightforward and power up with the boot disk reveals how noisy the cooling fan inside the drive is. If you could imagine sitting astride a 747 engine casing at takeoff (wearing suitable heat dissipating clothing, of course) then you have some idea of the drive noise. At least it makes playing Interceptor even more realistic. This is not particularly obtrusive for me but sometimes a Led Zeppelin album helps.

The manual talks at great length about the whys and wherefores of SCSI and the interface which is now sitting in the side of your Amiga. Apparently there is provision for a further seven SCSI devices including CD-ROM; tape streamers and additional hard drives but I have no way of testing this unfortunately. The expansion port is

duplicated on the interface so that you may connect other peripherals such as extra memory boards if you wish. Again though I was unable to test this.

On powering everything up, after lots of flashing LED and clicking from within the drive, you eventually find yourself with the familiar Workbench screen and the usual icons. The drive comes supplied with the latest version of Workbench so you can try out demos and marvel at how fast they load but the novelty soon wears off, and it is time to do some serious copying of programs over. To all intents and purposes the hard drive works in exactly the same way as a floppy drive, except much faster. Unprotected software such as word processors, compilers, painting programs etc can be transferred very easily indeed with the help of Workbench. If you hope to use a hard drive for commercial games however you will find that most are protected by checking for hard errors on the floppy disk and so will not work on the hard disk. It is comforting to note that programs such as Battlechess include an option for transferring to the hard drive so lets hope that more companies adopt this sensible approach.

The drive is configured as a single device of 40Mb, in this case. It is possible to partition the drive into as

many sub-drives as you like and this is recommended if you have many programs as it avoids the screen filling with icons as soon as you open the disk. The process of partitioning is quite involved since you effectively have to re-format the entire disk. Fortunately some software is provided to assist this but the instructions on its use are somewhat misleading and what eventually turns out to be a relatively simple task proves quite arduous. An important note regarding partitioning is that each drive you configure takes 20K or so of precious RAM as a buffer so with two floppies and four hard disk partitions you stand to lose a considerable amount of memory. Some programs such as DPaint tend to complain about this slightly but there are ways to avoid serious grief since you do not necessarily have to mount each device, only the one in use. This requires some fiddling around at the CLI level and so may prove troublesome for some users. Of course you could always buy some more RAM but that takes the fun out of life.

The drive performs very well indeed; programs load, on average, twice as fast as from a floppy under the 1.2 operating system. However, should Commodore ever design to release 1.3 to the marauding masses

then a far more significant increase in loading speed will be seen under the new Fast File System. Unfortunately this means completely re-formatting the drive from scratch which could be rather time-consuming but well worthwhile in the long term. Compiling and linking is made considerably quicker even with the leisurely Lattice C system. It must also be said that having all your useful software on a single drive means much less hunting around in dingy disk boxes on a crusade for that elusive file. All of the Workbench and its disk-based libraries can be easily transferred across to the hard drive to no more does the dreaded "Insert WB disk..." requester rear its unwelcome head.

The question regarding recommendation of the product in this case must be slightly reserved because of the niggling little omissions such as a real manual but for your money you are getting a well-built drive which functions very well indeed. If Burocare could provide decent documentation then the product would improve immensely but once you get over the lack of information you will find the additional power of your system invaluable.

Price: £595

SUPERBASE PROFESSIONAL 3

continued from page 16

Professional 3 supports transmission and reception of data at 300, 1200, 2400 and 9600 Baud and you can use XMODEM, XMODEM-CRC or WXXMODEM as the communications protocol. If need be Superbase can automatically detect which protocol is being used by the sender and adjust accordingly. There are a few thoughtful extras included as well - initialisation sequences can be transmitted before a file is sent, auto-dial facilities are supported for those with suitable modems, and automatic 'linefeed - carriage return' translation can be performed as files are

"The editor uses an object orientated approach which recognises six types or objects: data fields, text, areas, boxes, lines and images."

transmitted (this is useful when you are sending Amiga text files to PC's etc.). Seven new DML commands are available that allow programmed communications control and this

includes the abilities to send and receive whole files, individual characters, and record fields or other data held either in string variables or defined as static text strings.

The 'Forms Editor' which comes with Superbase Professional is the part of the package which allows you to design screen and report layouts. The editor uses an object orientated approach which recognises six types or objects: data fields, text, areas, boxes, lines and images. Its facilities are straightforward to use and new features have been added which allow some form based applications to run in native mode without the need for a DML program to drive them. The enhancements provided are very powerful and include the ability to directly interface with DML programs.

In the past I must admit that I have had some reservations about Superbase, not because of any inherent limitations for most practical purposes, but simply because I tend to favour products which adopt a clear relational approach to the creation of interfile linkages. It is possible to implement relational models with Superbase and the more I see of this range of products the more impressed

I become. Precision obviously listen to both market trends and their users and the speed with which ARexx support was provided is a clear indication of this. Together with the established user base and acknowledged up-grade path this policy must make Superbase products a good investment. This package is expensive but on the other hand few database programs available for the Amiga at present reach the standard that the overall Superbase Professional 3 package achieves. It's a highly sophisticated piece of software capable of handling most serious users requirements. So, if you are looking for a database program with more than average facilities, this package should definitely be on your shortlist. If you are already a Superbase user, but are looking for extra capabilities, then there is no doubt that you will find upgrading to Superbase Professional 3 well worth while!

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Amiga Answers

More Amiga Answers from Yuri Large, the Amiga User Group's Technical Whizz-Kid.

Dear AUI,

I could begin this letter "what a fab, megabril, fantasmagorical magazine. . ." — but I won't because if it weren't, I wouldn't buy it!

That's the point. I'd like you to give a few of your advertisers a message from us poor saps out here. It goes like this:

A few months ago, after 14 years of steadfast self-denial, I succumbed to the urge and bought an Amiga. It's a REAL machine. I've tussled with the CLI — I think I've won — and I've had a five course meal with the "Guru" (that's a draw!) But what I CAN'T get to grips with are all these companies that advertise goodies and handy stuff but don't really want to sell them.

I drove thirty-odd miles to Southend and was kept hanging around for twenty minutes only to be told "you'll just have to wait".

WAIT? With 500 smackeroos burning a hole in pocket and the wife hanging off my left arm, begging me not to spend the kids' dinner money yet again!

Needless to say THAT company didn't sell me a printer. What's more they won't be selling me anything else — EVER.

Now you can sit there and mumble. "It happens to all of us occasionally,

kid". Occasionally would be acceptable, not satisfactory, mind, just acceptable.

A week, or two later, I needed my memory expanding. Well, there's them as is specialists in memory. Lovely adverts they has. So we sends 'em off a letter and a stamp. Then we telephones 'em — twice and then we writes again. . . One replied three weeks later, the other, well it could have ceased trading I suppose — but its advert is there, large as life in this month's AUI. Guess which two companies DIDN'T sell me a mememory board?

I got it though — in the end that is. "Certainly sir. It'll be there tomorrow". "OH. Sorry sir, it was not posted until today."

"Well sir, someone's been telling you porkies — we haven't actually sent it yet."

That's another bunch who I will not bother with again!

So to this week.

"Excuse me, my order for a book, a mouse mat and a cleaning kit, they should have been here on Tuesday."

"Sorry mate" (they are ALWAYS sorry, aren't they?) there's no trace of your order. Let me take the details again."

NO WAY BROTHER!

The question is this — are you blokes REALLY in business?

Do you REALLY want to make a profit?

Or are you, in fact, eccentric millionaires who get their kicks from offending and frustrating the unwary and unsuspecting Amiga owner?

One bright spot. When I bought the printer, two assistants at Lan Computers spent an hour advertising me and discussing my needs. The shop was busy, they had to keep the other customers happy but they didn't (quite!) lose their patience. They got my money and I got their printer.

I wonder how many other AUI readers have had the same experiences?

Thank you for the chance to let off steam — I hope you will print this!

Yours faithfully

Ed Attewell

P.S. I am NOT an employee of Lan Computers!

Dear Ed,

There are good and bad, among the not-so-good and bad in every branch of business. . . In this case every AUI advertisers are both. Thank you for letting us know of your experiences. And congratulations to Lan on being the good. . .

continued on page 94

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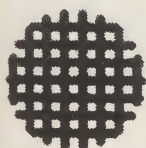
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Amiga Answers

continued from page 92

Dear AUI,

Congratulations on the quality of Amiga User International. Typos in recent editions are down to fewer than half a dozen per page, and the use of brain-damaging typographic effects such as the magenta on cyan type of page 58 in the April issue, is much diminished. Poor subbing, careless page makeup and "zany" layouts detract from an otherwise excellent magazine. But it's the contents that count, and AUI is streets ahead of the other British Amiga mags in this respect.

Incidentally, your readers might like to know that the Amiga doesn't always beat the Atari ST. As well as an Amiga 2000, I also have an Atari 1040ST. When I use my Brother HR-15 daisy-wheel printer, which I use for letters like this, with the Atari, it prints approximately twice as fast as it does when hooked up to the Amiga. Let's hope the printer drives in Workbench 1.3 (when it finally appears) are the improvement we are lead to believe they will be. If Atari can do it, surely Commodore-Amiga can.

Yours sincerely,
Gareth Jefferson

Dear Gareth,

You are quite right to criticise our not infrequent errors. Magazine production, even with dedication and skill, still is too human a business to achieve total accuracy easily. But we are trying. As for the 'zany' layouts and 'brain-damaging' typographic effects', beauty is, we are told in the eye of the beholder... None of us, whatever our artistic qualifications, is perfect. And we are glad, at least, you find the contents streets ahead — the debate on the value of content versus style is probably as old as cave painting or the Egyptian pyramids...

Dear AUI,

```
' Using Width with Print'
'John Gray
'Amiga User
'This is the Main Program
CALL Columns
WIDTH 80
CALL GoodBasic
END
'subprogram number 1
SUB Columns, STATIC
```

```
chars = 80 'characters across
x% = 77
Start:
FOR i = 1 TO 7
IF i > 4 THEN x% = 40
IF i > 6 THEN x% = 22
WIDTH chars
CLS
FOR n = 1 TO x%
PRINT "Amigabasic";
NEXT n
chars = chars - 11
WIDTH chars
WHILE INKEY$="" :WEND 'press any
key
NEXT i
END SUB
'subprogram number 2
SUB GoodBasic STATIC
WHILE MOUSE (0) = 0
Start:
CLS
WIDTH 80
t = 4
PRINT:PRINT
FOR i = 0 TO 8
PRINT TAB(t) "Amigabasic"
t = t + 6
NEXT i
t = 57
FOR i = 0 TO 9
PRINT TAB(t) "Is a good basic"
t = t - 6
NEXT i
FOR d = 1 TO 2200:NEXT d
WEND
END SUB
```

P.S. If you forget to re-set the Width to 80 — programming in direct mode doesn't half get shrunk up!

Yours sincerely
John Gray

Dear John

Thanks for the tip for AUI readers. That was a very neat bit of useful logic on your part.

Dear AUI,

Your reply to Mr. John Gray is not totally correct.

Whilst I agree that Deluxe Paint is protected it is still possible to copy it, which I have done for my own use, and had no problems.

Second there is no need to copy preferences to the disk as it already exists. At the > prompt on booting the disk type PREFERENCES <CR>, and you will be presented with the normal preferences screen, where you have all the normal options to change default settings. There are indeed several Epson printer drivers supplied, so he should have no problem getting his printer to work. That is, providing of course, that he has the correct type of cable.

Yours sincerely
P. Stewart

Dear P. Stewart,

You are, of course, correct.

My answer to John Gray's letter was based on my profound belief that the original and only copy of a precious program should never be write-enabled, and my presumption that most of our readers would not have managed to make a working copy of their "Deluxe Paint" disk.

Is your copy of "Deluxe Paint" all your own work — in which case, congratulations — or are you just an owner of "Hacker", Marauder, "Mirror" or "Quick Nibble"?

Dear AUI,

I need some advice on a problem. Is there a sound box or a special amplifier for the A500 because running it through my TV/monitor (Hitachi CTV 1444), the volume output is quite low and unadjustable. I have also tried sending the signal through two different radio cassette players via a phono-jack lead but although this worked, the signal from the Amiga seems too weak. Consequently, any sounds just seem to break up. Do you think there could be a fault on my Amiga or is a radio cassette player not the best thing to use?

Any help or advice would be a great help.

Yours sincerely
Gary Hunt

Dear Gary Hunt,

I presume that you get full volume control when using your Hitachi as a TV, and have established that the fault is not in its volume control or amplifier circuitry.

The A500 does not need a pre-amplifier when used with a suitable monitor (e.g. Commodore A1081 or A1084, Phillips 8833 or 8852). Try connecting your A500 to one of these monitors: either find a friend with one, or go back to the dealer who sold the computer.

Alternatively, find a friend with a stereo system and connect the Amiga's two audio output sockets to the two 'aux' input sockets on the amplifier.

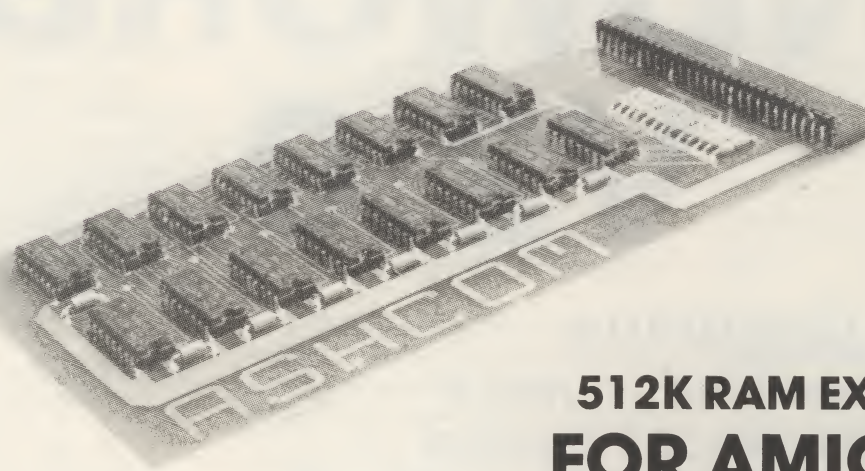
This will determine whether there is a fault in your computer, or just an incompatibility between its output and the Hitachi's expected input.

Audio inputs are categorised as low impedance or high impedance. Low is anything under 600 ohms: high anything over 2000 ohms. The Amiga's audio needs to be fed into a high impedance input. Assuming there is nothing wrong with your A500, it appears as if your Hitachi (and your radio cassette player) has a low-impedance input.

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KINDWORDS V2.0

The DisC Company

New and improved — not a washing powder but a word processor which knocks spots off the opposition. Peter Lee takes it for a spin...

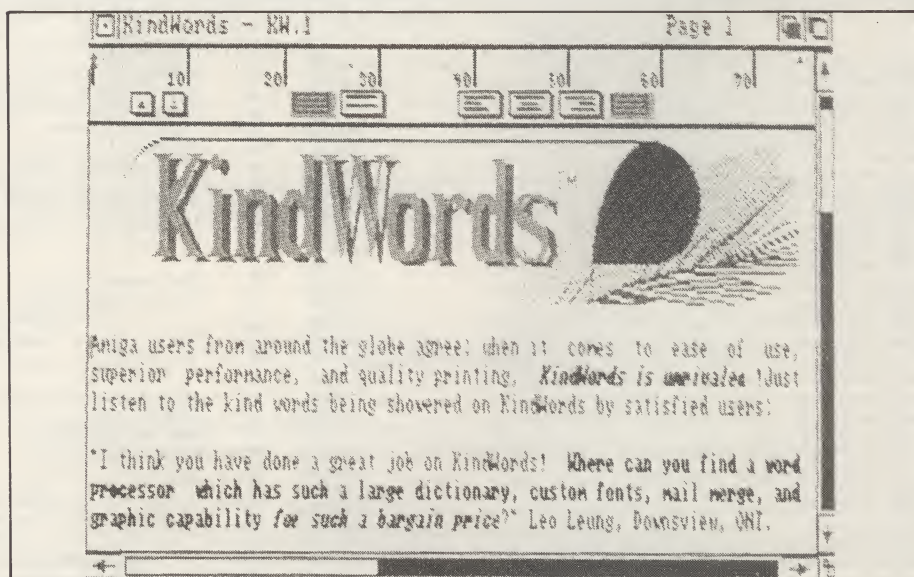
One of the cheapest and best-designed graphic word processors has suddenly grown up. With the release of Version 2 of this top-rated program, The DisC Company have turned a cute newcomer into a mature and seasoned performer. For all its shortcomings when it was initially released early last year, KindWords immediately earned its place in anyone's DTP collection. And with this upgrade, it cocks an even bigger snoot at the opposition. Additional features include a new 100,000 word spelling dictionary, a whacking 470,000 word thesaurus, 1.3 printer drivers, a hyphenation feature and a vastly improved font library. All this co-exists with the program's original features which made it such a smash in the first place.

KindWords comes in a box four times too big for the contents, which are 3 disks (Program, SuperFonts and preferences, and Dictionary/thesaurus), together with a well produced and illustrated paperback manual. The disks can be backed up or installed on a hard drive, and although the program will work on a bare 512K model, at least 1meg is recommended. Extra RAM is really the only way to get the best out of programs such as this

which import memory-hungry graphics.

Having tested the initial release of the program I was immediately cheered to find this upgrade has a PAL display and all the familiar commands have been retained or enhanced.

access while a document is checked. And if you thought a hundred thousand words was a mouthful — the new thesaurus provides 470,000 synonyms for its store of 40,000 words! This utility will describe the word you indicate with the cursor, then



NEW FEATURES

The new dictionary has been licensed from Collins, and boasts 100,000 words. For those with the RAM to accommodate it, the option is offered to load this into memory to speed up spelling checks, otherwise users are faced with a lengthy period of disk

access while a document is checked.

Clearly many of these will be inappropriate in the context of your document, but the scope is comprehensive, and a great addition to the program's features and a big bonus for the tired mind desperately searching for an

elusive word. It is a simple matter to update the dictionary by adding any new words which are not recognised.

A hyphenation feature has been included to help create more balanced lines of text; instead of padding a line out with spaces, this hyphenation feature allows you to keep words tightly together, splitting longer ones and inserting a hyphen where the word breaks — in the same way as newspaper typesetting equipment.

This feature should be handled carefully though, because the hyphen is inserted at an appropriate syllable with no regard for the sense of the word. In newspapers there is an exception dictionary which forces certain words to break as specified so you avoid misleading (and even offensive) splits.

Hyphenation can be either automatic (and hence unruly), or operated manually by inserting a soft hyphen into a word where you feel part of it could be taken back onto the previous line.

The existing SuperFont, Roman, has been joined by another well-designed high quality one, Novell, which is a sans serif face and comes in 8, 12 and 14 point sizes. In addition there are SuperFont Symbols, Math and Greek. Among the symbols are arrows, musical notes, and the Math typeface incorporates specialist notations for calculations. Finally there is an option to type with upper and lower Greek characters. Added to which accented letters are taken care of independently by a two-key press.

"The screen lay-out is pleasant, with easily edited parameters for things like margins and indents."

STANDARD FEATURES

Having outlined the version 2 enhancements, it is only fair to briefly recap on the program's overall attributes to give the full picture. Being a graphic word processor means that what you see on screen is what you will get on the printout.

The font styles you use to type your document (and there can be multiple faces in the one job) will be reproduced on the hard copy (provided of course that your printer is capable of graphic dumps and is supported by the appropriate printer driver), just as if you were printing a screen dump from an art program. This also means that any illustrations you may like to incorporate in your document will be printed out too.

There is a restriction here though, in that only 16 colours can be accommodated by the program, so you have to bear this in mind when creating your artwork. Although KindWords may display your imported graphics in a colour range all its own, they will be printed correctly.

Art brushes or full graphic screens (if you have the memory to accommodate them) can be re-sized once loaded thanks to some handy display gadgets, and they can be cut, copied and pasted just like any portion of your text.

Formatting of the document is more or less idiot-proof thanks to some on-screen icons; the screen lay-out is pleasant, with easily edited parameters for things like margins and indents, and the program features a good help menu to speed things along if you get confused during the settling in period.

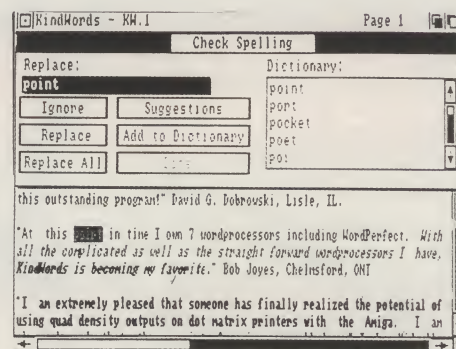
As well as saving your work in a document format (inclusive of all the graphics and font styles), you can simply save an ASCII file of the text — useful if you intend the files to be either printed to screen or sent via a modem.

Images of low resolution (320 x 200) or medium res (640 x 200) can be freely loaded, but unfortunately the upgrade has left untouched the program's need to strip high resolution graphics of every other horizontal line to convert them to medium resolution.

Probably the greatest single attraction of the program has been retained — the custom SuperDrivers for a number of printers. These were innovative when the original program was released, and they are still excellent examples of the programmers' attention to detail.

A mail print is implemented, allowing a standard document to be sent to as many people you have defined in a merge list; this item works fine, but at in the earlier version is a little too complex for my liking.

As well as pull-down menus and well designed control requestors, the program features keyboard shortcuts in keeping with its high degree of consideration for the user.



SuperDrivers

Printers supported by KindWords SuperDrivers are: CBM_MPS1000, CBM_MPS1500, Epson 9 and 24 pin models and compatibles, HP_deskJet, HP_laserJet, HP_PaintJet, Imagewriter, Okidata_2931, Okimate_20, Xerox_4020. Almost all other printers are catered for by the standard Preferences drivers, but will not benefit from the excellent SuperFont output quality.

CONCLUSION

I liked KindWords when it was released, and the additions of Version 2 serve only to improve it. A lot of its charm is the power per pound factor — for under £50 you are getting a full-feature graphic word processor which as well as being a better speller than most people can also offer advice on the best choice of words from an extensive thesaurus. The printer output quality is maintained — that is to say it is excellent, and once again I have to salute a programming team who put people first.

PL

PRICE:
KindWords £49.95 (inc)
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MicroTips

Bill Harvey has passed along this tip for AUI readers who want efficient Four Byte Comparisons IFF style. There's a macro in the IFF header files that illustrates a well known C trick for building four byte ASCII text

identifiers inside LONG variable equivalents. It's dead easy to do, once you've seen how... and is worth using because it makes copy and compare operations more efficient. First the macro...

```
#define MakeID(a,b,c,d)((LONG)(a)<<24L|
(LONG)(b)<<16L|(c)<<8|(d))
```

The « operator left shifts characters a,b and c by 24, 16, and 8 bits respectively and then casts the value as LONG so the compiler knows exactly what's been

created. Here's an example: To produce the definition 'USER' you would include this define statement in your setting up code...

```
#define USER MakeID('U','S','E','R')
```

This statement uses the MakeID() macro to create a LONG variable whose constituent bytes contain the ASCII character U,S,E, and R.

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